INVESTMENT AND INFLATION

WITH SPECIAL REFERENCE TO THE IMMEDIATE POST-WAR PERIOD

CANADA, 1945-1948

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Ottawa, Canada
February, 1949.

FOREWORD

Forecasts of investment in Canada covering expenditures on construction, machinery and equipment by both private and public agencies have been prepared in the last three years by the Economic Research Branch, formerly of the Department of Reconstruction and Supply and now with the Department of Trade and Commerce. In this period numerous requests have been received for an appraisal of what investment means to the Canadian economy and how it affects levels of employment and income and the general welfare of the average Canadian.

On September 30, 1948 the Royal Commission on Prices asked for a factual and interpretative examination of the very high level of investment on prices and inflation in the immediate post-war period. In particular the Royal Commission suggested that a monograph be prepared which would "discuss at some length the effect of the post-war investment boom in Canada upon the movement of prices. It should outline with supporting statistics the factual details of the situation, analyze the factors brought out by the statistical and historical record, and generally weigh all considerations where directly or indirectly the post-war investment boom has influenced the price level in Canada."

To meet these requests Dr. O.J. Firestone, the Deputy Director-General of Economic Research of the Department of Trade and Commerce, was asked to undertake an appraisal of the factual evidence available and report on the results of the research work done up to this date. This enquiry resulted in the present study entitled, "Investment and Inflation, With Special Reference to the Immediate Post-War Period, Canada, 1945-1948."

The report is divided into seven sections. It deals with changes in the volume of investment which occurred in the past, and the impact of these fluctuations on employment, income and prices. It describes how investment has contributed to the economic development of the country and the improvement of the standard of living of the average Canadian. It appraises the attitude and the motives for making capital expenditures by business, consumers and governments, and it points to where the money comes from to finance the investment program. Finally, the report examines the effect of investment on economic activity and prices in the post-war period. This throws light on whether the largest investment boom in Canada, in absolute terms, is really the largest in view of the tremendous recent increase of Canadian resources and technical knowledge.

Investment currently about equals Canadian exports. These two segments represent the main pillars on which Canadian prosperity rests. Since more information on the role of investment in the Canadian economy will be of general interest, this monograph, prepared by Dr. O.J. Firestone, is made available. Mrs. J.M. Nickson and Mr. D.J. Daly of the Economic Research Branch assisted in the assembly of the material for this report. Information and data were contributed by various branches of the Department of Trade and Commerce, the Department of Labour, Bank of Canada, Central Mortgage and Housing Corporation and the Dominion Bureau of Statistics.

Ottawa, February, 1949.

PREFACE

Forecasts of investment in Canada covering expenditures on construction, machinery and equipment by both private and public sectors have been prepared in the last three years by the Economic Research Branch, formerly of the Department of Reconstruction and Supply and now with the Department of Trade and Commerce. In this period numerous requests have been received for an updating of that investment image to the Canadian economy and how it affects levels of employment and income and the general welfare of the average Canadian.

On September 20, 1947 the Royal Commission on Prices asked for a formal and interpretative evaluation of the very high level of investment on prices and inflation in the immediate postwar period. In particular the Royal Commission requested that a memorandum be prepared which would indicate at some length the effect of the postwar investment boom in Canada upon the economic of prices. It should outline with supporting statistics the overall details of the situation, analyze the factors brought out by the statistical and historical record, and generally relate all considerations upon "forecasts or indicators the postwar investment boom has influenced the price level in Canada."

To meet these requests Dr. W. A. Irwin, the Deputy Minister-General of Economic Research of the Department of Trade and Commerce, was asked to undertake an appraisal of the Forecast evidence available and report on the results of the research work done up to this date. This enquiry resulted in the present study entitled, "Investment and Inflation", the Special Interim to the Immediate Price or Profit, Canada, 1947-1948."

The report is divided into seven sections. It deals with, inter alia the volume of investment which occurred in the past, and the impact of these expenditures on employment, income and prices. It describes how investment has contributed to the economic development of the country and the improvement of the standard of living of the average Canadian. It appraises the attitude and the factors for making capital expenditures by individuals, enterprises and governments, and it points to where the money can be found to finance the large capital programs. Finally, the report examines the extent of investment on economic activity and prices in the postwar period. This throws light on whether the largest investment boom in Canada, in absolute terms, is really the largest in view of the tremendous recent increases of population and industrial activity.

Important currently about which Canadian experts, these two reports represent the main guidance on which Canadian economic trends. Since such information on the role of investment in the Canadian economy will be of general interest, this report has been prepared by Dr. W. A. Irwin, in such a way as to make it readily available. Mrs. M. M. Dalton and Mr. R. Daly of the Economic Research Branch assisted in the assembly of the material for this report. Information and data were contributed by various officers of the Department of Trade and Commerce, the Department of Labour, Bank of Canada, Central Mortgage and Housing Corporation and the Dominion Bureau of Statistics.

Ottawa, February, 1949.

NOTE ON INTERPRETATION

In using this report two observations should be borne in mind:

1. The interpretation of economic behaviour is a complex undertaking. It encompasses both rational and irrational reactions of human beings towards their environment and covers many varied fields. In considering only one aspect of these broad relations - in this report it is investment - the analysis is of necessity limited. It should be supplemented by considerations of the behaviour of other economic segments to obtain a proper appreciation of economic developments as they take place and to understand the interaction of the various sectors of the economy which yield such aggregates as high employment and incomes and general price levels.

2. Great advances have been made in recent years in the development of economic statistics, particularly in the field of national accounting in Canada. Still, many of the estimates available are preliminary because of the inadequacy of basic data and frequently can only be considered as first approximations. While the best statistical information available at short notice was assembled for inclusion in this report, the data should on the whole be considered more as a broad indication of economic behaviour rather than an attempt to measure events with detailed accuracy.

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Role And Behaviour Of Investment

1. Investment in Durable Physical Assets. In 1948 Canada is spending about $3 billion on durable physical assets, including expenditures on new construction, major improvements and alterations and purchases of new machinery and equipment, both domestically and foreign produced. Compared with 1929 this is more than twice as much in value terms and about one-third more in volume terms. Compared with 1939 the current investment program is about four times as great in value terms and twice as large in volume terms.

2. New Construction and Machinery and Equipment. Construction expenditures comprise currently about three-fifths of total investment outlay. Over the last twenty years fluctuations in machinery and equipment expenditures were more substantial than in construction. Both components taken together, in turn, fluctuated more than any other segment of economic activity.

3. Private and Public Investment. More than three-quarters of the investment program is currently privately initiated. In the past twenty years private investment has fluctuated more substantially than public investment. In 1948 private investment is in volume terms more than twice its pre-war level. Public investment is up by only two-thirds.

4. Business and Other Investment. In 1945 one half of the total investment program was for business purposes. In 1948 this proportion was up to 62 per cent. The remainder was spent on institutional investment, housing and direct Government capital outlay. Because of the increased resources available in the investment goods industries it has been possible in the housing field, in spite of a smaller ratio to total resources used, to construct more units in Canada than ever before.

5. Investment by Regions. Ontario absorbs currently close to one-half of capital expenditures made in Canada. This is an illustration of the rapid rate of industrialization of this province which is favoured by a combination of resources and markets. The other regions follow in this order: Quebec, British Columbia, the Prairies and Maritimes. British Columbia and the Maritimes are the regions that have increased capital expenditures most rapidly

since 1945. These provinces are currently spending five times as much as they did three years ago. Ontario and Quebec are spending each about four times as much, and the Prairies about three times as much.

6. Investment in Large Cities. The course of capital expenditures on manufacturing reflects the race between Montreal and Toronto as to which of these two metropolitan centres is the most industrialized city in Canada. In 1945 Toronto and Montreal were spending about the same amount. In 1946 Toronto pulled notably ahead, but in 1947 Montreal overtook and passed Toronto and maintained its lead in 1948. Investment activity in the ten large metropolitan centres suggests a levelling off of capital expansion from 1947 to 1948 in six cities. The exceptions are four Ontario cities, - Toronto, Windsor, Hamilton, and Ottawa which show continuing vigour of expansion.

7. Net Investment in Durable Physical Assets. In the 'twenties Canada added significantly to her capital. In the 'thirties, as a result of substantial declines in new investment not enough was spent in some years to keep existing plant, equipment and housing up to the standard achieved in 1929. Consequently the quantity of capital available was declining and its quality was deteriorating. To make up these deficiencies and war-engendered postponements is one of the driving powers behind the current high level of investment activity.

8. Investment in Inventories. In the agricultural sector, inventories have been declining in the post-war period. In the non-agricultural business sector, inventories have been increasing. This increase was most rapid in the first post-war year and continued in an upward direction in the second and third years, although at a slower pace. Inventory speculation, usually an important factor in a period of rapidly rising business activity and prices, appears to have been a less important factor than had been past experience.

9. Gross Domestic Investment. Gross domestic investment, that is, the sum of investment in durable physical assets and inventories, shows much greater variations between some years than investment in durable physical assets alone. This is of particular significance for the years 1945 and 1946, when the demand on Canada's resources was not as gradual as investment in durable physical assets data would suggest, but much more abrupt.

10. Investment and Exports. Exports and investment are two pillars of prosperity, currently of almost equal size in absolute terms. The past record suggests the following observations:

(a) Exports have varied considerably in absolute terms, but their demands on domestic supply of goods and services have remained relatively stable.

(b) Investment has varied even more than exports in absolute terms and its demands on domestic supply have been less stable in relative terms.

(c) The evidence supports the contention that investment has been a more volatile factor than exports. In the light of this historical record the general complaint that low levels of employment and income in Canada are largely associated with a decline of exports should be supplemented by consideration of domestic investment and other factors.

11. Investment and Consumer Expenditures. Available statistical evidence, although tentative, suggests that after taking account of price changes the consumer had at his command in 1948 a larger proportion (57 or 58 per cent) of total supply of goods and services (gross national product and imports) than he had in the boom year of 1929 (56 per cent). Against this a smaller proportion of Canadian resources was devoted to investment in plant, equipment and housing in 1948 (12 per cent) than was the case in 1929 (14 per cent). Even allowing for population increase the average Canadian enjoyed in 1947 and 1948 a higher standard of living than ever before - in fact about 50 per cent better than in 1939.

12. Comparison with the United States. The achievements of the United States have been a spur to the Canadian people to try to catch up in terms of productive efficiency and standard of living.

(a) During the last two decades Canada has devoted a larger proportion of her resources to investment, than the United States.

(b) In the last two years Canada has been expanding her manufacturing industry at a rate 20 per cent higher than the United States, while in the 'thirties the Canadian industry had been making proportionately smaller capital expenditures than its counterpart in the United States. In housing Canada is also spending proportionately more than her neighbour to the south, a reversal of the position of the late 'thirties.

Supply of and Demand for Resources

13. Accumulated Demand for Investment. Accumulated demand for investment projects at war's end is put at $12 billion (in 1945 prices), including $6 billion for business, $2½ billion each for housing and governments, and $1 billion for institutions. But even under the most favourable circumstances of abundant supplies it is doubtful whether the investment program in the first year would have involved more than one third of accumulated demand. A large part of the backlog for capital goods would not become effective until later when business prospects were brighter than they were in 1945.

14. Supply of and Demand for Basic Materials. Of 11 basic materials used in the domestic investment program, Canada is a net exporter of seven products, including lumber, asbestos, gypsum, copper, lead, zinc, and nickel. In four commodities, Canada is a net importer: iron ore, steel, coal and coke. In the post-war period, sufficient domestic supplies of net export commodities were assured through export controls to meet the urgent demands of the investment program. However, net import commodities particularly coal and steel, remained in short supply. In 1948 the supply of coal improved notably, but the steel situation worsened. Canada's steel shortage is estimated at 10 to 25 per cent of her current consumption. This it is claimed is one of the contributory factors to the inflationary tendencies notable in the first three postwar years. No improvement of the steel situation is in sight in the immediate future.

15. Supply of and Demand for Construction Resources. Since 1945 the construction labour force increased by two-thirds, building material production between one-half and three-quarters, and the number of construction companies by more than one-third. On the whole demand for construction resources exceeded supply towards the end of 1948. Most construction firms were still working at or near capacity and had work on hand for from 9 to 15 months.

16. Supply of and Demand for Machinery and Equipment. Industrial expansion and increased output of domestic machinery and equipment industries proceeded at such a rate during the post-war period that many new production records were achieved and many new machinery and equipment items formerly not produced in Canada were developed. Imports of machinery and equipment from

Canada's main supplier, the United States, increased significantly during the period 1945 to 1947. They levelled off in 1948, the increased domestic demand in that year being met by increased domestic supplies.

17. Price Implications of Supply and Demand. The significant factor in the inflationary pressure in the capital goods sector is the high level of investment demand. This high level of demand has led to a sustained and continuous pressure on supplies, and this pressure is reflected in increasing prices. This has come about in spite of a large increase in available supplies from two main sources: considerable increases in the output of Canadian capital goods industries, and a rise in imports in the earlier part of the post-war period. But for this increase in available supplies, costs of capital goods could easily have been much higher than they are today, in the absence of an elaborate system of controls. Further price increases in the capital goods sector would not have been without influence on the general level of prices.

Cost of Investment

18. Investment Costs Are Up. Investment costs in 1948 are about twice those of 1939. Construction costs have risen between 107 and 117 per cent and machinery and equipment costs are up a little more than 80 per cent.

19. Reasons for Construction Cost Increases. Between 1939 and 1948 construction material prices have risen 118 per cent and construction wage rates 71 per cent, or a weighted increase of 97 per cent, but total construction costs are 10 to 20 per cent higher. There are four reasons for this:

(a) Decline in labour efficiency.

(b) Decline in operating efficiency.

(c) Decline in managerial efficiency.

(d) Substantial profit increases.

20. Reasons for Machinery and Equipment Cost Increases. In the same period prices of machinery and equipment produced in Canada have increased 92 per cent, and imported items, mainly from the United States, 82 per cent, but the actual cost to the Canadian purchaser of foreign produced machinery and equipment is up only about 62 per cent because of the return to Canadian-American dollar parity and the lower duties and indirect taxes. Net effect: total increase of only a little over 80 per cent. Problems of

declining efficiency and profit increases in the machinery and equipment field are similar to those occurring in construction.

21. Comparison with Post-War I. Post-War II investment cost increases are about the same as Post-War I increases. Between 1913 and April, 1920 (turning point), building material prices rose 115 per cent and construction wage rates 81 per cent. Major difference: construction costs turned down by mid-1920 but they were continuing upward at mid-1948 with the end not immediately in sight.

22. Comparison with Other Countries. Investment cost increases are slightly below those of the United States (where construction costs are up 116 per cent and machinery and equipment costs are up 90 per cent) and the United Kingdom (where construction costs are up substantially more than 100 per cent and machinery and equipment costs are up 123 per cent).

23. Comparison with Consumer Goods. Prices of consumer goods have risen some 20 per cent less that those of capital goods. Four reasons are suggested:

(a) Capital goods have been pressing harder for scarce resources than consumer goods.

(b) There was little opportunity of substitution for capital goods, particularly equipment, but there appeared to be some possibilities of substitution for consumer goods.

(c) For many firms prices proved a secondary consideration in the immediate post-war period as long as the business and profit outlook remained favourable. But prices of consumer goods and services remained a primary consideration for most consumers.

(d) Business firms on the whole were in stronger financial position and better able to compete for scarce resources than consumers.

Contribution to Economic Development and Improvement of Standard of Living

24. Immediate Employment and Income Effects. These effects of capital expenditures include:

(a) Direct employment and income effect, that is, the jobs provided and the money earned by those who contribute labour, skill, initiative and capital to the production of capital goods, and the rendering of services which go into the investment program.

(b) Secondary employment and income effects, which cover the employment and income generated in consumer goods industries due to spending of wage and salary payments and profits made in the construction and machinery producing industries and the industries that supply them with essential materials and services.

25. Direct Employment and Income Effect. The direct employment effect of the investment program in 1948 is put at 1,000,000 persons, of whom 750,000 would be employed in Canada and 250,000 abroad working on the production of materials, machinery and equipment imported into Canada for ultimate use in the investment program. The income effects are proportionate to the employment effects. Most of the 250,000 persons employed abroad are in the United States. The pressure from this source on the American labour market, however, has been small, since this number represents less than one-half of one per cent of the total labour force in the United States. In return, Canada has increased her labour force in export industries such as newsprint, base metals and lumber to meet some of the strategic shortages in the United States. By this bilateral division of labour both the United States and Canada have been able to make more effective use of their complementary resources.

26. Secondary Employment and Income Effects. In a period of high levels of employment and income like the present an additional volume of investment can only be achieved by a transfer of factors of production from other sectors of the economy. The overall effect will mean no change in the volume of employment and little change in the volume of output. Secondary effects of investment expenditures would currently tend to increase inflationary pressure on the consumer goods field, with little effect on an increase in the volume of output of these industries.

27. Long Run Production and Service Effects. These are the effects which result after the investment expenditures have been made and are associated with the employment of capital assets. The long run effects of investment will differ depending on who makes the investment: business, governments or consumers.

28. Significance of Business Investment. The impact of business investment will vary depending on the type of capital expenditures, the line of business and the timing. Effects of particular importance

in the post-war period include: (i) increased output, (ii) improved quality, (iii) expanded exports, (iv) new employment opportunities, (v) industrial diversification, (vi) greater utilization of Canadian resources, (vii) increased efficiency, (viii) improved working conditions, and (ix) impact on prices. The last is a particularly important matter. Consumers are frequently not fully cognizant of the increasing price consciousness on the part of business in the post-war period.

29. Significance of Government Investment. Government investment is being made primarily for two purposes:

(a) To provide public facilities essential to the efficient functioning of the economy, including those associated with the protective functions of government (e.g., justice, police and military), and service functions (e.g., public administration, communal services, etc.).

(b) To provide public facilities which will contribute to economic development of the country and social betterment of the people. The latter is a function which has been coming more to the fore in the last decade, with increasing emphasis being placed on natural resources development and the improvement of standards of health and housing.

30. Significance of Investment for Consumers. This covers immediate benefits through housing and future benefits to be derived from the investment projects of business and governments.

(a) In spite of the record proportions which the current housing boom has reached - almost twice as many units are being built in 1948 as in 1939 - the present rate of house building is only slightly higher than the number of new families coming into existence. As remarkable an industrial accomplishment as the present housing program is, it has done little to reduce the aggregate pressure for added and improved housing accommodation built up during the depressed 'thirties and the war period of the 'forties.

(b) The main benefits which the consumer is, or may in the near future be receiving from the large investment program undertaken in the first three post-war years are three: (i) greater quantity,

(ii) better quality, and (iii) improved price-income relationship.

Some of these benefits have already been achieved but more are in store. By 1949 the economy is expected to be geared to a high level of output in most lines - except for a few bottleneck industries like steel. At that rate it would not be surprising to find that many of the accumulated backlogs that exist today might disappear sooner than is currently apparent.

Business and Consumer Attitude Towards
Investment and Financing of Program

31. Business Men's Attitude Towards Investment. After a slow start in 1945 business men gained confidence quickly in 1946 and continued in that optimistic mood into 1948, believing in prosperity ahead for several years.

32. Factors Conducive to Business Investment. As for investment in plant, installations and equipment, these factors include: (i) a large backlog of productive investment projects, (ii) substantial accumulated liquid assets, (iii) large increases in undistributed corporation profits, (iv) more adequate depreciation allowances, (v) easier conditions of borrowing, (vi) abolition of excess profits taxes and reduction of income tax rates, (vii) credits and gifts to European and Far Eastern countries and negotiations looking towards increasing multilateral trading. With regard to investment in inventories, two special features prevailed: (i) inventories available in certain lines were inadequate for efficient business operations, and (ii) a cautious inventory policy to minimize the risk of loss in case of declining sales and prices.

33. Consumer Attitude Towards Investment. With regard to residential investment, the clamour was for more and more housing. With regard to business investment, two opposing views were held: (i) less business investment to make available more resources for immediate use by consumers, and (ii) continuing high rate of business investment as the quickest way of producing more consumer goods in the future to fight inflation.

34. Financing of Business Investment. The two outstanding factors are:

(a) Financing in the post-war period was accomplished with little strain and only small recourse to capital markets.

(b) The capital expansion was almost completely financed from Canadian resources and some of the indebtedness to foreign lenders was reduced, a reversal of the experience of previous investment booms.

35. Financing of Residential Investment. A little over half of the financing of houses built was provided from individual savings. About 30 per cent of houses were either built directly by the Government or erected with Government financial assistance. About the same contribution was made by lending institutions on their own or with Government participation. Allowing for overlapping, Government and lending institutions together contributed to a little less than half the housing program.

36. Savings and Investment. In 1945 gross home investment absorbed only a small portion (20 per cent)of total private savings. The major portion went into a net increase in foreign assets (24 per cent) and the Government deficit (60 per cent). In 1947, as the Government deficit turned into a surplus, it became the second most important factor (32 per cent) in providing funds for the large volume of private investment. The prime source was business savings (55 per cent). The contribution of personal savings (21 per cent) was smaller. (Percentages do not add to 100 because of residual error contained in the estimates.)

37. Implications for the Future. The balance between personal and business savings, Government surplus or deficit, and investment, both civilian and military, has been changing rapidly during the war and post-war period. It will require a great deal of fiscal wisdom and adequate consideration of the best allocation of resources to steer a middle course of avoiding the extremes of shortages and inflation on the one side and unemployment and low incomes on the other.

Government's Attitude Towards Investment

38. Public Investment Policy. The Federal Government's attitude towards public investment (except housing) during 1945-1948 has aimed at cutting down capital expenditures to a basic minimum and postponing all construction projects that can be deferred without impeding efficiency of Government operations. Little public criticism of this policy has been heard.

39. Private Investment Policy. The Federal Government's attitude towards private investment (excluding housing) was different for two periods:

(a) During 1945 and 1946 expansionist measures were taken designed to

encourage speedy industrial conversion and modernization.

(b) During 1947 and 1948 mildly deflationary measures were taken including (i) budget surpluses, (ii) firming of interest rate and curtailment of bank credit, (iii) discontinuance of the expansionist measures of 1945 and 1946, (iv) continuation of allocation of export controls to assure most productive use of key resources, (v) capital goods import controls under the Emergency Exchange Conservation Act, and (vi) appeals to the public to postpone non-essential investment projects.

(c) There has been a great deal of criticism of this policy centred around (i) lifting of construction controls and high building costs, (ii) expansionist measures, e.g., special depreciation provisions, (iii) "easy money" policy, and (iv) discrimination between capital and consumer goods.

40. Special Case of Housing. Government's program represented an all-out effort and resulted in peak levels of residential construction exceeding past housing accomplishments in Canada and matching or exceeding the accomplishments of any other country in the world. Public criticism of the Government's housing policy persisted throughout the post-war period. It centred around the argument that the number of houses built were insufficient to meet current needs and beyond the means of a large portion of the population. Hardly any criticism was heard that the housing effort was too large and inflationary. In this respect housing criticism was inconsistent with the criticism of the Government's attitude towards other types of private investment.

41. Reasons for Confusion. The confusion that exists today as to whether the Government's attitude towards private investment in the post-war period had inflationary effects or not is partly due to lack of understanding of the sequence of economic events and the policies they necessitated and partly due to the failure to give adequate publicity to the purpose and effect of Government measures taken in the private investment field in the first three years since the return of peace.

Post-War Investment Problem

(42) Chief Economic Problem of Post-War Period: Too many trying to do too much in too short a time.

(43) Economic Climate Leading to Investment Boom. A complex set of circumstances contributed to inflation in the post-war period. Among the important factors were:

(a) World inflationary pressures on prices were particularly strongly felt in Canada, which at war's end started out on a process of adjustment from a lower price plateau than most other countries.

(b) Price adjustment of commodities in short supply became necessary as a means of encouraging movement of materials and labour into these fields and gradually bringing supply in line with demand.

(c) Levels of effective demand were so high in all sectors of the economy that competitive bidding for scarce factors of production was unavoidable.

(d) Increase in overall supply was limited by small expansion of the labour force and only moderate improvement in output per man-hour on a national scale - the improvement being more pronounced in selected industries.

(44) Investment and Inflation. The impact of investment on inflation is complex and cannot be isolated from other factors.

(a) Increase in investment has exerted pressure on the general price level due to competitive bidding for scarce resources and through secondary impacts on consumer goods industries. But the pressure is not as great as may appear at first glance, mainly because capital expenditures by private industry largely took the place of government expenditures for industrial goods and services serving military needs. The effect of high world prices appears to have been a more significant factor contributing to inflation. Strong consumer demand was another factor. It would be misleading to blame any one factor for inflation.

(b) Had investment been cut in 1943 by 10 per cent the effect on the official cost-of-living index would have been slight. At most it would have prevented the index from rising by 2 or 3 per cent. An attempt to cut the investment program by a substantial proportion

would have been hardly feasible in view of the extensive requirements for capital goods. But had such an attempt been made, this would have meant a serious dislocation of industry, a certain measure of unemployment in particular fields, a decline in income for those affected, and higher prices because of world pressures and domestic shortages. It would probably have led to a decline in output of the nation as a whole and a lowering of the real standard of living.

(c) Control of the volume of investment alone would not have been the solution to the problem of inflation in the post-war period. A much wider and more varied system of directive measures covering prices, wages and allocation of resources in the key sectors of the economy would have been more effective. Whether such a system would have been acceptable to the public, and how great the difficulties would have been in administering such a scheme in peacetime, are questions which go beyond the present inquiry.

(45) Investment Boom at the end of 1948. After three years of investment boom the Canadian economy is still in a comparatively strong position.

(a) Unlike some previous investment booms, which gathered speed as they developed, the investment boom following World War II started out with a bang, slowing down in the rate of expansion of volume in each succeeding year.

(b) Supply of most factors of production has been catching up with demand. Shortages of basic materials such as steel, and lack of skilled workers in particular trades, e.g., masons and bricklayers, are continuing.

(c) Cost of investment showed the first signs of levelling off, because prices and wage rates increased at a slower pace, output per man-hour increased slightly, and competitive bidding reappeared.

(d) Capital expenditures made in the first two post-war years began to pay off in terms of an increased flow of goods and services. Many effects will not be felt until 1949.

(e) Business continued in a strong financial position. Large profits in 1948 and a continuation of a conservative dividend policy held promise that business would be able to look after a large part of

its own financing - at least in the immediate future. By the end of 1948 there was still no immediate sign of speculative excesses. Most businessmen and individuals combined measured optimism with an attitude of realism that things could get worse. There was little evidence of the feeling of "permanent prosperity" so characteristic of the over-optimism of the late 'twenties.

(f) The role of government vis-à-vis the investment boom was a delicate one. It could not afford action that might bring about a lowering of levels of employment and income. It could not afford inaction that would allow price excesses and speculation. The record so far supports the contention that high levels of employment and income and standard of living prevailed in the post-war period, and that, in spite of rapid price increases, harmful price excesses and speculation were on the whole avoided.

(46) Short-Term Outlook. The post-war investment boom in aggregate appears in volume terms to have come close to a peak in 1948. The possibility that 1948 might turn out to be the actual peak in the immediate post-war period cannot be precluded. Nevertheless, substantial elements of strength are continuing and are likely to offset largely if not actually exceed the weakening in some of the other sectors already noticeable. Differences in strength should become more apparent in individual investment sectors in the next 2 or 3 years.

(a) Investment in manufacturing and primary industries has shown signs of weakness, and a lower level of investment activity in these fields in the next two or three years may be anticipated.

(b) Investment plans of most utilities are still on the increase. Utilities as a group represent the strongest factor in the non-government investment field.

(c) Investment in commercial, merchandising and service groups shows different trends, with elements of strength counterbalanced by elements of weakness. On the whole this sector should be able to avoid any significant decline in capital expenditures over the next two or three years.

(d) Institutional investment has still a large backlog to make up and high levels of activity are likely in the immediate future.

(e) Housing is a doubtful element of strength. There is at present no concrete evidence of slackening demand for housing, but high building costs relative to income levels suggest that the peak of the privately financed housing boom may be in sight and a turning point for the immediate post-war period may appear between 1948 and 1950.

(f) Many Federal, provincial and municipal projects presently being postponed could be carried out when business investment declines. Direct government investment therefore presents an element of strength.

(g) Some expansion of preparedness activity is likely as Canada's contribution to Atlantic security. Some of the expenditures would directly affect the investment program, while others would affect capital goods industries, although their product may appear as exports if supplies and equipment are shipped abroad.

(h) The outlook for inventory accumulation in the non-agricultural sector for the near future is one of continuation of the present cautious attitude on the part of business. In national terms the annual rate of inventory accumulation should decline. In the agricultural sector, weather and other natural factors and foreign demands remain the two main variables effecting changes in the volume of inventories.

(i) Allowing for the various forces tending in different directions, aggregate investment in its broadest sense, that is, including expenditures under the preparedness program, is likely to remain at high levels over the next two or three years. This appraisal is based on current observable trends. It is not a forecast because there are circumstances presently not foreseeable that could change the course of investment and affect the composition of the program.

(47) Long-Term Outlook. Any attempt of looking beyond 1950 or 1951 is of necessity shrouded in much more uncertainty than an appraisal of the short-term outlook. Several broad observations can be made:

(a) Fluctuations of investment occurred in the past. They are likely to occur again. It is almost certain that attempts will be made

in both Canada and the United States to reduce the degree of fluctuations and to mitigate the effects on employment and income of whatever changes may occur.

(b) The Canadian economy is a growing economy. To provide new workers with the necessary capital and new families with the necessary housing and other essential facilities may involve at the 1948 rate of increase an annual capital expenditure of $700 million(in 1948 prices), or about one-quarter of the current investment program. A large part of the future investment program will consist of replacement of worn-out and obsolete equipment if the stock of capital of the country is to be maintained at high standards of efficiency.

(c) The trend in Canada is towards more processing and fabrication of Canadian materials. Industrial research in this country is increasing. Canada has also been fortunate in obtaining the results of research undertaken in the United States and the United Kingdom in the past, and is likely to benefit in the future. Both factors would tend to increase the demand for capital per worker. There is also increasing evidence of government encouragement to peacetime industrial development.

(d) Efforts to liberalize and stabilize international trade - even if progress is slow - are likely to have salutary effects on investment decisions.

(e) Investment for security purposes is likely to loom larger than it ever has before in a peacetime period.

(f) Little experience is available as to how to stabilize the levels of investment in Canada or other countries where the volume of investment is largely guided by the decisions of individuals. Much experimentation will be required, and any success achieved in alleviating some of the fluctuations of the volume of investment will not be without initial setbacks and disappointments. Perhaps the most encouraging sign in sight is the growing recognition and more intensive knowledge by all groups in the country, business, labour, consumer and government, as to what would happen to levels of employment and income and the standard of living should the North American economies continue to allow investment to take the same course in the future as it did in the past.

I. ROLE AND BEHAVIOUR OF INVESTMENT

Canadians are spending in 1948 the largest amount ever spent in any one year on new construction and the purchase of machinery and equipment. This state of affairs is generally described as Canada's greatest investment boom. Is this true? In absolute terms the answer is: yes. After allowing for price changes the volume of investment is the greatest on record - over one-third higher than in 1929 and double that of 1939. In relative terms the answer is: no. The ratio of investment in durable physical assets to domestic supply (gross national product and imports from abroad) in 1948 appears on a volume basis lower than it was in 1929. Investment in inventories, which absorbs a much smaller proportion of resources than investment in durable physical assets, is up. Exports and Government demands changed only little. The end result: between 57 and 58 per cent of total Canadian supply is used to meet the demands of consumers in 1948, as compared with 56 per cent in 1929. However, since the estimates for 1948 are still in a preliminary stage, and errors of two or three per cent up or down are in the realm of possibility, the most reasonable observation which could be made at present - that is, before the end of the year - is the statement that the consumer is getting as great a share of Canadian resources in 1948 as he did in 1929, the last peacetime year of peak economic activity. What is the effect of this on his standard of living? Since full use is being made of productive facilities, greatly expanded in Canada, more goods are being turned out and more peacetime services are being rendered than ever before. This increased output is divided among a population made larger by natural increase and by immigration. Allowing for this factor, the volume of consumer purchases by the average Canadian is today about 50 per cent higher than it was in 1939. Statistics for the years prior to 1938 are less reliable, but they appear to support the observation that the present standard of living of the average Canadian - except for a small change from 1947 to 1948 - is higher than ever before in the history of the country.

This is not to suggest that the high level of investment activity has not created difficult problems in adjusting the resources of the country to meet the pressing demand for capital goods, or that the excess of demand over supply in the investment goods industries has not had inflationary effects. But the excess of demand over supply problem was a phenomenon common to most segments of the economy when peace came in 1945. A large volume of dammed up purchasing

power of both consumer and business, at home as well as abroad - made effective in part through credits to foreign countries - was let loose on an economy that needed time to adjust its productive mechanism to meet this demand. Physical adjustments were only part of the process. Another important aspect was the adjustment of Canadian prices - considerably lower at war's end in Canada than in most other countries - to prevailing world prices.

In considering therefore the role of investment in the post-war period it should be borne in mind that it was the interaction of a set of very complex forces that contributed to an excess of demand over supply situation. Many of these forces were extraneous in character, over which Canada had little or no control.

Definition of Investment

A number of definitions of investment are currently used and still more are possible. In this report investment is defined as the aggregate of all goods and services which: (1) add to the stock of durable physical assets held by producers and housing owned by consumers, (2) effect a net change in the level of inventories held by producers, and (3) result in a net change of foreign assets abroad held by Canadians. The two first mentioned flows of goods and services are called domestic gross investment or domestic gross capital formation, the third net investment abroad, and the sum of the three items total gross investment.(1)

In accordance with its terms of reference this study is primarily concerned with the interpretation of the role and behaviour of domestic gross investment and only incidental reference is made to net investment abroad.

Investment in durable physical assets consists of additions to buildings, installations, engineering works and machinery and equipment irrespective of whether these expenditures are made for entirely new projects or for the replacement or improvement of existing assets. Buildings cover those used by business, institutions, governments and as residences. The goods (and services) which are purchased for investment purposes are called capital goods. They are used in substantially the same form over an extended period of time.

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(1) For a more detailed discussion of the concepts involved see Public Investment and Capital Formation, A study of Public and Private Investment in Canada, 1926-1941, Dominion Provincial Conference on Reconstruction, Ottawa, 1945.

However, each year some of the productive value of these capital goods is used up or diminished either from production (wear and tear) or from the passage of time (obsolescence). Business attempts to allow for this reduction in value through depreciation charges. If this reduction in value of existing durable physical assets is deducted from current gross additions to the existing stock, a smaller quantity, called net investment in durable physical assets, is arrived at. Expenditures for capital goods involve a major outlay at the time of acquisition, but further investment expenditures are small until replacement or expansion becomes necessary. Consequently, the production of capital goods in any one year may be above or below the amounts used up, depending upon the current need for replacement and the apparent and foreseeable demand for increased capacity.

Investment in durable physical assets can be separated into a number of homogeneous groups. Two major divisions are used in this study:

1. A distinction between private and public investment:

(a) Private investment is the sum total of capital expenditures by business enterprises, including publicly owned utilities, institutions and housing built by private firms or individuals.

(b) Public investment is the sum total of capital expenditures by Government owned utilities and other enterprises, Government operated institutions and housing and direct Government outlay on what is traditionally known as public works.

2. A distinction between business and other investment:

(a) Business investment is the total of capital expenditures made by business enterprises, including Government owned corporations, covering manufacturing, primary industries and construction industry, public utilities, commercial, merchandising and service groups.

(b) Other investment is the total of capital expenditures made for institutions, housing, and directly by Government.

Investment in inventories is the change in stock of goods necessary for production and distribution purposes but not yet in the form or in the location in which these goods would finally be used. Inventories must be kept on hand if there is to be a continuity of production and an efficient working of the distribution system. Inventories include such things as stocks of raw materials, work in progress and finished consumer and producer goods. These stocks of

commodities change in physical form substantially as they provide their service. They may disappear entirely, as in the case of fuel, or they may become a physical part of another commodity before it is ready for final use. Some of these inventories are finished goods on the shelves of consumers and will later be used for personal consumption. The remainder are in the hands of producers. Analysis of inventory changes in this report excludes stocks held by consumers.

Quality of Statistical Data Used

As a result of the significant advance in the development of economic statistics in Canada in recent years, particularly in the field of the national accounts, sufficient evidence is available to present a comprehensive picture of the role and behaviour of investment in Canada. However, some of the estimates available are inadequate for the purpose on hand, while other estimates, based on scanty primary data, can only be considered as first approximations.

In this state of development sufficient data are available to paint a broad picture of economic events that took place or are being shaped. The estimates, however, lack the precision to produce a picture of developments with photographic accuracy.

With regard to investment, the main theme of this report, two sets of data are being used:

1. Estimates prepared by the Economic Research Branch of the Department of Reconstruction and Supply, now of the Department of Trade and Commerce(1):

(a) investment in durable physical assets, including investment by business, institutions, for housing, and directly by Government,

(b) investment in inventories reflecting the change in the volume of stocks held.

These estimates are used in all instances except where otherwise indicated.

2. Estimates prepared by the National Income Unit of the Dominion Bureau of Statistics included in the National Accounts:

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(1) These data are substantially those contained in the documents mentioned below, revised in the light of more up to date information becoming available since publication. It bears emphasis that the estimates in their present form are still preliminary and that further improvements are under way. The sources used are: Public Investment and Capital Formation, A Study of Public and Private Investment Outlay, Canada 1926-1941, Dominion-Provincial Conference on Reconstruction, 1945; Capital, Repair and Maintenance Expenditures of Business Enterprises in Canada, Forecast 1946, Forecast of 1947 Investment by Canadian Business, Private and Public Investment in Canada, Outlook 1948, the last three published by the Department of Reconstruction and Supply.

(a) investment in durable physical assets including investment by business, institutions, and for housing, but excluding direct Government investment. This item is called in the National Accounts "plant, equipment and housing".

(b) investment in inventories reflecting the change in value of stocks held in all instances except for grains in commercial channels and farm inventories where the estimates present the value of the physical change of inventories.

The sum of these two components in the National Accounts is called "gross home investment". In this report these estimates are used in those instances where investment components are compared with other economic flows, e.g., consumer expenditures, Government expenditures, exports, private savings, depreciation allowances and other business costs, total output (gross national product or gross national expenditure) and total supply (gross national product plus imports from abroad). The different results obtained from these two series are illustrated in Summary Table 1.

SUMMARY TABLE 1. - ESTIMATES OF INVESTMENT, DEPARTMENT OF RECONSTRUCTION AND SUPPLY AND DOMINION BUREAU OF STATISTICS, CANADA, 1947

Department of Reconstruction and Supply		Dominion Bureau of Statistics	
	$ Mill.		$ Mill.
Investment in Durable Physical Assets (1)	2,399	Plant, Equipment and Housing (2)	2,042
Investment in Inventories (3)	313	Inventories (4)	842
Domestic Gross Investment	2,712	Gross Home Investment	2,884
Gross National Expenditure	13,375	Gross National Expenditure	13,375
Domestic Gross Investment as a Proportion of Gross National Expenditure - per cent	20.3	Gross Home Investment as a Proportion of Gross National Expenditure - per cent	21.6

Source: For estimates of Department of Reconstruction and Supply see footnote 1 on p. 28; estimates of Dominion Bureau of Statistics published in the National Accounts.

(1) Includes capital expenditures made directly by governments.
(2) Excludes capital expenditures made directly by governments.
(3) Estimated value of physical change.
(4) Includes changes in book value except for agricultural inventories.

Investment in Durable Physical Assets

Fluctuations, 1929-1948

Total investment in durable physical assets in 1948 is more than double the value of capital goods purchased in Canada in 1929, but a great deal of this increase is due to higher prices. In volume terms this increase is much smaller,

only about one-third. The difference between the two high points of investment activity in the last twenty years is reduced still further if allowance is made for changes in population. For Canada's population increased by about 2.9 million in this period. On a per capita basis, and allowing for price changes, Canadians are spending $126 in 1948, as compared with $119 in 1929, or only 5 per cent more. It may also be remembered that the Canadian economy is a rapidly growing economy and that the process of mechanization is a continuing one. It requires more and more capital outlay to replace manual labour by machine power. As indicated later, if available statistics are any guide, about the same proportion of total supply of goods and services available in Canada in 1948 goes into investment in durable physical assets as was the case in 1929 (see Summary Table 19).

The level of investment has fluctuated substantially in the period between the 1929 and 1948 highs. The lowest volume of investment in durable physical assets was recorded in 1933, when capital outlay was less than one-third of what it had been in 1929. Even by 1939, when recovery was well under way, investment was still only two-thirds of the level of 1929. When the war ended the volume of investment was about the same as in the year when the war started. Beginning in 1946, however, investment increased rapidly, surpassing the 1929 volume level slightly in 1947 and more notably in 1948 (see Summary Table 2).

SUMMARY TABLE 2. - INDICES OF INVESTMENT IN DURABLE PHYSICAL ASSETS, CURRENT AND CONSTANT DOLLARS, CANADA, SELECTED YEARS, 1929-1948

Year	Current Dollars	Constant Dollars
1929	165	150
1933	43	47
1939	100	100
1945	144	103
1946	203	145
1947	301	185
1948	374	203

Source: Estimate by Economic Research Branch, Department of Reconstruction and Supply.

Construction, Machinery and Equipment

Expenditures on new construction, major improvements and alterations represent currently about three-fifths of total investment in durable physical assets (see Summary Table 3), the remainder of the outlay going into purchases

of machinery and equipment, both domestically produced and imported from abroad (see Section II). Both components of investment varied widely over the twenty-year period under review. Fluctuations in machinery and equipment were more substantial than those of construction. This is particularly notable when considering changes in volume. The decline for construction from 1929 to 1933 was 63 per cent, and for machinery and equipment 77 per cent. Currently construction is 83 per cent above the volume of 1939, while machinery and equipment purchases are up 117 per cent (see Summary Table 4).

SUMMARY TABLE 3. - INVESTMENT IN DURABLE PHYSICAL ASSETS, CONSTRUCTION AND MACHINERY AND EQUIPMENT, CANADA, 1945-1948
($ Million)

Year	New Construction and Major Improvements and Alterations	New Machinery and Equipment Purchases	Total Investment in Durable Physical Assets
1945	706	442	1,148
1946	1,014	606	1,620
1947	1,359	1,040	2,399
1948	1,704	1,280	2,984

Source: Same as Summary Table 2.

SUMMARY TABLE 4. - INDICES OF INVESTMENT IN DURABLE PHYSICAL ASSETS CONSTRUCTION AND MACHINERY AND EQUIPMENT, CURRENT AND CONSTANT DOLLARS, CANADA, SELECTED YEARS, 1929-1948

Year	New Construction and Major Improvements and Alterations		New Machinery and Equipment Purchases	
	Current Dollars	Constant Dollars	Current Dollars	Constant Dollars
1929	165	147	164	159
1933	49	54	35	37
1939	100	100	100	100
1945	150	110	135	101
1946	216	147	185	138
1947	289	168	317	205
1948	363	183	390	217

Source: Same as Summary Table 2.

Private and Public Investment

More than three-quarters of the investment program is currently privately initiated. But not all of this is necessarily privately financed.

For example, 19 per cent of privately initiated housing in 1947 was built with Government assistance. Irrespective of where the funds come from, the factor determining whether a capital outlay is private or public is the source of initiation. If investment is the result of action taken by an individual or firm it is private investment; if the capital project is initiated by Government or a Government owned corporation, the expenditures are classed as public investment. The current ratio of public investment to total is 4 per cent lower than the corresponding ratio in 1945, but 2 per cent higher than it was in 1946 and 1947 (see Summary Table 5). This small increase is due to larger Government participation in the housing, public utilities, school, and hospital building programs. Over the twenty-year period private investment fluctuated more widely than public investment. In volume terms, private investment in 1933 was down 72 per cent from the 1929 level, as against 58 per cent for public investment. Currently the volume of private investment is more than twice its pre-war level, while public investment is only up by two-thirds (see Summary Table 6). The reason for this is partly the Government's definite policy of curtailing its own public investment expenditures in times of a high volume of private investment activity (see Section VI), partly the time required to move public projects from the idea to the execution stage. High building costs also present a greater deterrent for public authorities to proceed with capital projects than they do for private business and individuals (see Section III).

SUMMARY TABLE 5. - INVESTMENT IN DURABLE PHYSICAL ASSETS, PRIVATE AND PUBLIC INVESTMENT, CANADA, 1945-1948.

Year	Private Investment	Public Investment	Total Investment	Public Investment as a Proportion of Total
	$ Mill.	$ Mill.	$ Mill.	Per cent
1945	832	316	1,148	27.5
1946	1,276	344	1,620	21.2
1947	1,901	498	2,399	20.8
1948	2,281	703	2,984	23.5

Source: Same as Summary Table 2.

SUMMARY TABLE 6. - INDICES OF INVESTMENT IN DURABLE PHYSICAL ASSETS, PRIVATE AND PUBLIC INVESTMENT, CURRENT AND CONSTANT DOLLARS, CANADA, SELECTED YEARS, 1929-1948.

Year	Private Investment		Public Investment	
	Current Dollars	Constant Dollars	Current Dollars	Constant Dollars
1929	176	162	137	124
1933	41	45	47	52
1939	100	100	100	100
1945	144	106	142	105
1946	222	157	155	107
1947	330	202	224	134
1948	396	210	317	165

Source: Same as Summary Table 2.

Business and Other Investment

The rapid rate of Canadian industrialization and business expansion is evidenced by the developments of the last four years. In each of these years the proportion of investment resources devoted to business capital expenditures increased, from 50 per cent in 1945 to 62 per cent in 1948 (see Summary Table 7). Only little over one-third of capital expenditures are currently made for housing, institutional and direct Government building. The remainder is designed to contribute to the expansion of industry, to make it more efficient and better able to compete, an important factor for Canada as a world trading nation. The classification of "business" and "other" investment is an even more sensitive indicator of economic fluctuation than "public" and "private" investment. The reason why business investment fluctuated more than private investment is that the former includes public utilities and Government owned corporations and excludes housing and institutional building. As business prospects deteriorated in the 'thirties investment by business enterprises declined considerably. Private entrepreneurs as well as public corporations followed a similar pattern. Now with peacetime prosperity at a high point, most business enterprises, including publicly owned utilities and corporations, are striving to expand their facilities (see Summary Table 8).

SUMMARY TABLE 7. - INVESTMENT IN DURABLE PHYSICAL ASSETS, BUSINESS AND OTHER INVESTMENT, CANADA, 1945-1948

Year	Business Investment $ Mill.	Other Investment $ Mill.	Total Investment $ Mill.	Business Investment as a Proportion of Total Investment Per Cent
1945	570	578	1,148	49.7
1946	953	667	1,620	58.8
1947	1,486	913	2,399	61.9
1948	1,873	1,111	2,984	62.8

Source: Same as Summary Table 2.

SUMMARY TABLE 8. - INDICES OF INVESTMENT IN DURABLE PHYSICAL ASSETS, BUSINESS AND OTHER INVESTMENT, CURRENT AND CONSTANT DOLLARS, CANADA, SELECTED YEARS, 1929-1948

Year	Business Investment		Other Investment	
	Current Dollars	Constant Dollars	Current Dollars	Constant Dollars
1929	203	191	121	107
1933	40	44	46	51
1939	100	100	100	100
1945	133	99	156	114
1946	223	161	180	124
1947	347	218	246	144
1948	438	237	300	153

Source: Same as Summary Table 2.

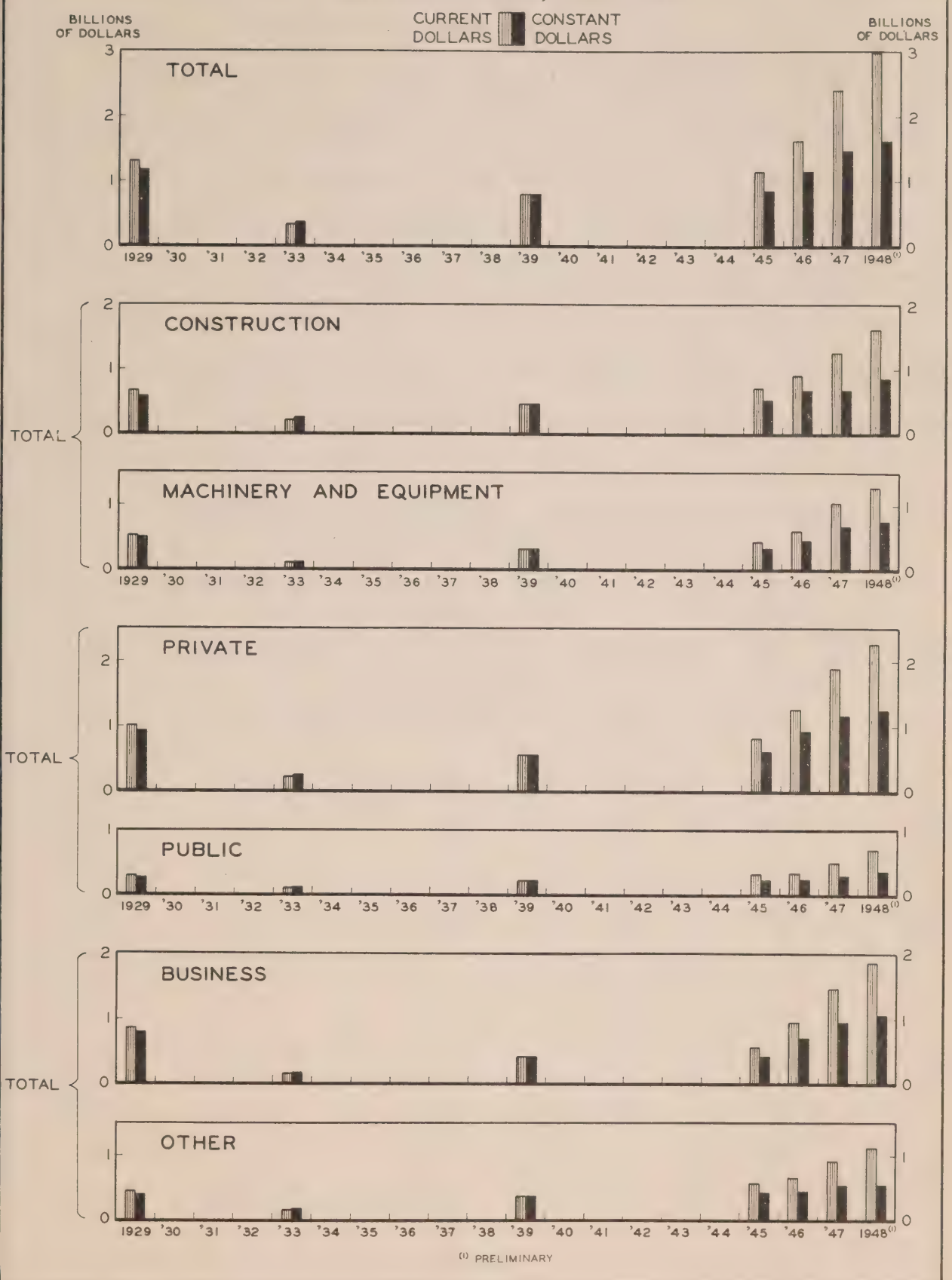
Business Investment by Type

A study of the components of business investment throws light on what makes aggregate investment fluctuate. From 1945 to 1947 the two main driving forces were investment by manufacturing and by primary industries (including the construction industry). But the situation changed in 1948, with both these types of investment levelling off and two other groups, utilities and commercial, merchandising and service establishments pushing ahead to absorb the large supplies of capital goods becoming available (see Section II). This development has important implications for the future course of the current

- FIGURE I -

INVESTMENT IN DURABLE PHYSICAL ASSETS, CANADA,

SELECTED YEARS, 1929-1948.



SOURCE: SEE PP. 30-34.

investment boom. From the information available (see Summary Table 9) it is becoming apparent that the expansionist forces in manufacturing and primary industries have lost some of their initial vigour. Capital expenditures in these two important sectors of the economy are levelling off. Barring unforeseen circumstances, a decline in the near future is in sight. Currently the drop has been absorbed by utilities and some commercial, merchandising and service groups, which are still on the upsurge. But as these two sectors spend their driving power a new slack should appear in the next two or three years. Unless this slack is taken up by other kinds of investment of a non-business type or unless new stimulus is provided for business investment, the peak of the current investment boom should not be too far distant if, in fact, it has not already occurred. Of course, large capital expenditures for a preparedness program, or necessitated by a change of the world trading situation, could affect the present outlook (see Section VII).

SUMMARY TABLE 9. - INVESTMENT IN DURABLE PHYSICAL ASSETS, BUSINESS BY TYPE, CANADA, 1945-1948.

Year	Manufacturing	Primary Industries and Construction Industry	Utilities	Commercial Merchandising and Services	Total Business Investment
			$ Million		
1945	196	170	121	83	570
1946	321	229	239	164	953
1947	513	369	371	233	1,486
1948	594	432	528	319	1,873
			Per Cent		
1945	34.4	29.8	21.2	14.6	100.0
1946	33.7	24.0	25.1	17.2	100.0
1947	34.5	24.8	25.0	15.7	100.0
1948	31.7	23.1	28.2	17.0	100.0

Source: Same as Summary Table 2.

Investment Other Than Business, by Type

This group includes investment by institutions, for housing and directly by Governments of the type traditionally called public works (excluding equipment for military purposes). Housing is the most important of these three components and in fact exceeds capital expenditures of any other single group,

including manufacturing, which with 10 per cent lower capital expenditures is a close second. The other two groups, institutional and direct Government investment expenditures, are each considerably lower and are in fact exceeded by every one of the groups into which business investment has been divided (see Summary Table 10). Direct Government investment is currently 27 per cent of "other investment" and 10 per cent of total investment. The small contribution which direct Government investment by the Dominion, provincial and municipal governments is currently making towards the high level of capital expenditures brings to the fore the tremendous task involved in expanding direct government investment sufficiently to take up any significant decline in business investment if and when this occurs. If business investment were to drop only 15 per cent in volume it would mean a public works program double the current size. On the other hand, if Government were to exercise full control over public investment by Crown corporations, institutions and other independent agencies, a 15 per cent drop of business investment would require an increase of about half of all public investment outlay to compensate for the slack created. Such a decline in the volume of business investment once the peak has been reached is well within the realm of possibility. Whether Governments are fully prepared to mobilize sufficient resources to take up the slack is another question (see pp. 171 and 192 Section VI).

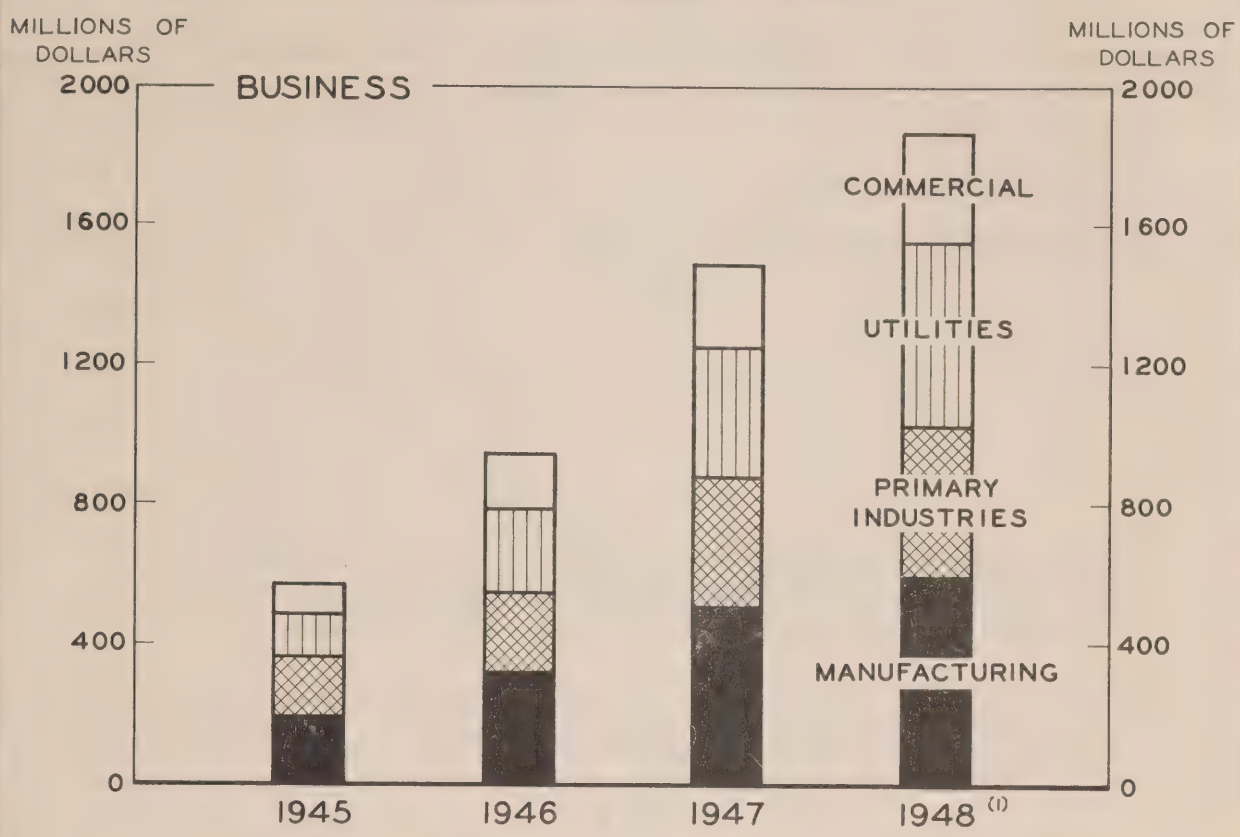
SUMMARY TABLE 10. - INVESTMENT IN DURABLE PHYSICAL ASSETS, OTHER THAN BUSINESS BY TYPE, CANADA, 1945-1948.

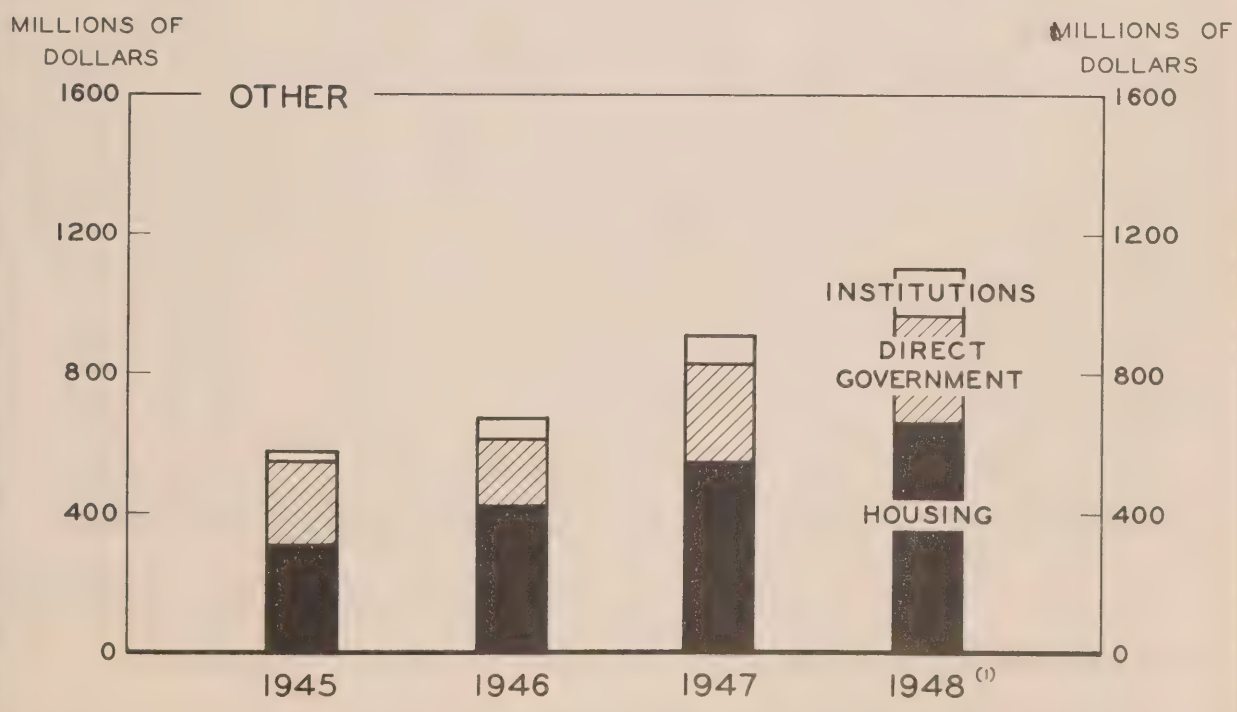
Year	Institutions	Housing	Direct Government	Total Investment Other than Business
		$ Million		
1945	35	307	236	578
1946	54	419	194	667
1947	80	549	284	913
1948	148	660	303	1,111
		Per Cent		
1945	6.1	53.1	40.8	100.0
1946	8.1	62.8	29.1	100.0
1947	8.8	60.1	31.1	100.0
1948	13.3	59.4	27.3	100.0

Source: Same as Summary Table 2.

- FIGURE II -

INVESTMENT IN DURABLE PHYSICAL ASSETS, CANADA, 1945 - 1948.





(1) PRELIMINARY.

SOURCE: SEE PP. 35 AND 36.

Investment by Regions

Information is available for a regional breakdown of capital expenditures for manufacturing, mining, woods operations and selected utilities, covering 55 per cent of total business investment. The industrial concentration in Ontario-which draws its strength from a combination of resources and markets - is reflected in the regional distribution of capital expenditures. On the above basis, this province alone is responsible for close to half of investment in Canada. The other regions follow in this order: Quebec, British Columbia, Prairie Provinces and Maritimes. British Columbia and the Maritimes have increased capital expenditures most rapidly since 1945. The indication is that these provinces are currently spending almost five times as much as they spent three years ago. Ontario and Quebec are each spending about four times as much, and the Prairie Provinces about three times (see Summary Table II).

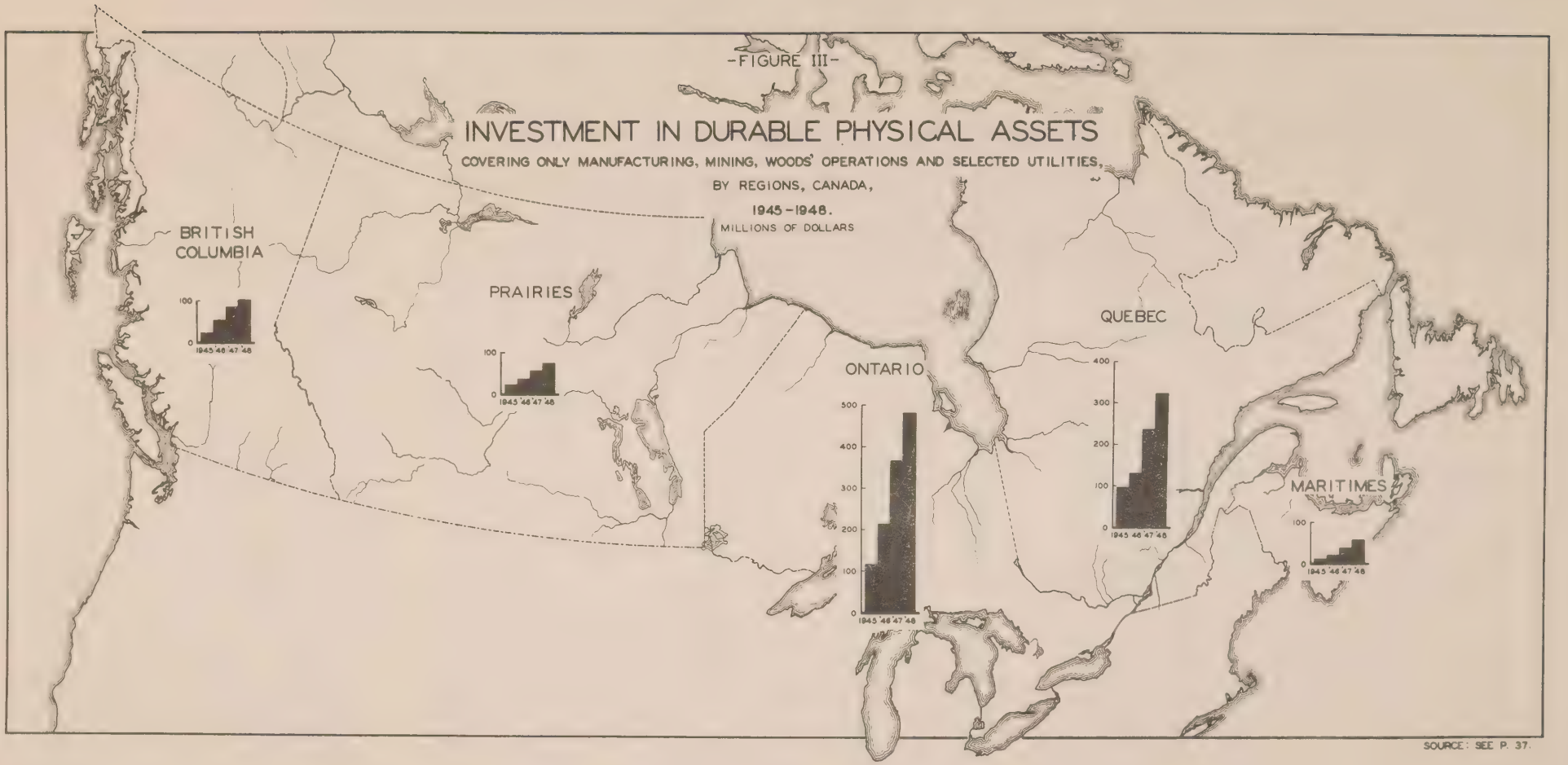
SUMMARY TABLE II. - INVESTMENT IN DURABLE PHYSICAL ASSETS COVERING ONLY MANUFACTURING, MINING, WOODS OPERATIONS AND SELECTED UTILITIES, BY REGIONS, CANADA, 1945-1948.

Year	Maritimes	Quebec	Ontario	Prairies	British Columbia	Canada
			$ Million			
1945	12	78	116	24	22	252
1946	21	130	214	38	54	457
1947	39	236	367	57	86	785
1948	58	322	482	75	103	1,040
			Per Cent			
1945	4.7	31.0	46.0	9.5	8.8	100.0
1946	4.6	28.5	46.8	8.3	11.8	100.0
1947	5.0	30.1	46.7	7.3	10.9	100.0
1948	5.6	31.0	46.3	7.2	9.9	100.0

Source: Same as Summary Table 2.

Investment by Ten Greater Cities

The race between Montreal and Toronto as to which of these two metropolitan centres will be the most industrialized city in Canada is reflected in the capital expenditures made by their manufacturing industries. During 1945 Toronto was spending about as much as Montreal. By 1946 Toronto pulled noticeably ahead but in 1947 Montreal overtook and passed Toronto and maintained its lead in 1948(see Summary Table 12). Each of these two cities spends about as much on manufacturing;



SOURCE: SEE P. 37.

investment as the remaining eight greater cities taken together. The ten cities, which comprise 33 per cent of the Canadian population, are responsible for 43 per cent of total manufacturing investment. Another significant factor is the levelling off of investment activity from 1947 to 1948 in six cities, with only four Ontario cities - Toronto, Windsor, Hamilton and Ottawa - showing a continuing vigour of expansion.

Net Investment

No comparable figures to those shown in the preceding sections are available at present for capital consumption to arrive from gross domestic investment to net domestic investment. The latter is an important quantity, for it reflects the net additions to or net subtractions from the capital stock of the country as these changes occur.

Some broad indication of the behaviour of gross and net investment can be gleaned by using data on investment in plant, equipment and housing, and depreciation and similar business costs(1) shown in the Canadian National accounts (see Summary Table 13).

According to these data Canada has been adding significantly to her capital in the late 'twenties and in the post-war period. However, during the 'thirties, as a result of substantial declines in new investment, not enough was spent to keep existing plant, equipment and housing up to the standard achieved in 1929. As a result, the quantity of capital available in Canada was declining and its quality was deteriorating. To make up these deficiencies is one of the driving powers behind the current high level of investment activity (see p. 58 in Section II).

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(1) The figures on depreciation and similar business costs shown in Summary Table 13 may overstate or understate actual capital consumption. They overstate it by using mainly accounting records of depreciation. It is business practice to write off - where possible - investment over a shorter period of time than capital goods are used up in actual practice. This is conservative business practice but the use of such records distorts the actual loss in the value of capital assets due to wear and tear and economic obsolescence. Depreciation charges computed on the accounting basis would also tend to be high in depression periods and low in boom periods relative to new investment, because of the practice of charging depreciation against acquisition costs, a value of the past, which is not comparable with the current replacement costs. On balance the estimates of depreciation and similar business costs appear to be higher than the actual decline in value of the capital assets held in Canada. The effect of this would be significant in a year such as 1939. It is likely that actual net investment was a positive figure in 1939, while the data in Summary Table 13 show a negative figure and suggest disinvestment. If the limitations of these estimates are borne in mind they can be used to illustrate the course of net investment.

SUMMARY TABLE 12. - INVESTMENT IN DURABLE PHYSICAL ASSETS COVERING ONLY MANUFACTURING, BY TEN GREATER CITIES, CANADA, 1945-1948

Year	Halifax	Saint John	Quebec	Montreal	Ottawa	Toronto	Hamilton	Windsor	Winnipeg	Vancouver	Total 10 Greater Cities
	(Millions of Dollars)										
1945	0.5	0.6	2.8	21.2	1.8	21.6	12.6	6.7	2.5	6.6	76.9
1946	1.5	0.9	3.4	44.0	7.0	54.6	15.4	6.6	3.7	12.6	149.7
1947	1.8	1.2	5.0	83.5	7.2	58.2	28.4	7.1	6.0	15.5	213.9
1948	1.3	0.8	4.8	82.1	8.8	75.8	31.5	12.0	5.9	13.7	236.7
	Per Cent										
1945	0.7	0.8	3.6	27.6	2.3	28.1	16.4	8.6	3.3	8.6	100.0
1946	1.0	0.6	2.3	29.4	4.7	36.4	10.3	4.4	2.5	8.4	100.0
1947	0.8	0.6	2.3	39.0	3.4	27.2	13.3	3.3	2.8	7.3	100.0
1948	0.5	0.3	2.0	34.7	3.7	32.0	13.3	5.1	2.6	5.8	100.0

Source: Same as Summary Table 2.

SUMMARY TABLE 13. - INVESTMENT IN PLANT, EQUIPMENT AND HOUSING AND DEPRECIATION AND SIMILAR BUSINESS COSTS, CANADA, SELECTED YEARS, 1929-1947.

($ Mill.)

Year	Investment in Plant Equipment and Housing	Depreciation and Similar Business Costs	Investment less Depreciation and Similar Business Costs
1929	1,107	677	+ 430
1933	221	500	- 279
1939	554	582	- 28
1945	865	785	+ 80
1946	1,321	846	+ 475
1947	2,042	928	+ 1,114

Source: National Accounts, Dominion Bureau of Statistics.

Investment in Inventories

Inventories can be regarded as the stock of goods present in the economy at any point of time, consisting of a great variety of goods in various stages of manufacture or in distributive channels. At one end an inflow of new goods is continually being added from domestic output and imports, while at the other end a continual outflow of goods occurs to consumers and other domestic purchasers, and to foreign buyers. The size of inventories depends on a great many complex and interacting factors. One factor is business policy - a desire to adjust inventories to expected changes in sales and supply, or perhaps to speculate with inventories in expectation of profits from price changes. At times the adoption of more effective control methods will bring about a reduction of inventory holdings still compatible with efficient business operations. Sometimes changes in inventory holdings are completely unplanned, arising from factors not foreseen by businessmen. An interruption in the regular supply may come about, and this occurs most frequently in industries dependent on agricultural output - fresh, frozen and canned foods and meats, the grain trade, etc. Interruptions in supply may also occur because of strikes or other factors. Unforeseen changes in sales, in either direction or magnitude may occur. The net results of these interacting factors, output, sales and deliberate inventory policy, appear as changes in the size of inventories held.

Agricultural inventories are greatly affected by the weather, particularly in the case of grains. Before the war, when favourable weather brought large crops, substantial inventories of grain had to be held when world demand was insufficient to absorb Canada's surplus and exports were at low levels. At the start of the war, for example, Canada had a substantial carry-over of grains. Comparatively large grain inventories continued until 1942, both on farms and in commercial channels, as large crops and the diversion of ocean transport to war purposes led to a piling up of grain stocks from ocean terminals right back to the farms. These stocks have now been largely liquidated by sales to the United States, Great Britain and the war-devastated countries of Europe. The volume of grain inventories on farms and in commercial channels is currently lower than before the war.

Fluctuations in inventories of livestock before the war were not as substantial as those in grain inventories. Since the end of the war, however, the number of livestock held on farms has declined more noticeably. Comparatively high prices for meats have encouraged sales and more recently the large increases in prices of coarse grains used for feeding purposes have made livestock relatively less remunerative. The number of hogs in particular has decreased with reduced emphasis on bacon for export. The number of horses has continued to fall, although this is more a long-term development arising from increased mechanization of agriculture. As a result livestock on farms has been declining continuously since the end of 1944 (see Summary Table 14).

SUMMARY TABLE 14. - INVESTMENT IN INVENTORIES AS REFLECTED BY THE CURRENT VALUE OF PHYSICAL CHANGE, CANADA, SELECTED YEARS, 1929-1947
($ Mill.)

Year	Business Inventories			Farm Inventories			Total Inventories
	Non Agricultural Inventories (1)	Grain in Commercial Channels	Sub-Total	Grain on Farms	Live Stock on Farms	Sub-Total	
1929	+ 125	+ 34	+ 159	- 144	-	- 144	+ 15
1933	- 73	+ 10	- 63	- 29	-	- 29	- 92
1939	+ 195	+ 127	+ 322	+ 34	+ 25	+ 59	+ 381
1945	+ 126	- 212	- 86	- 167	- 71	- 238	- 324
1946	+ 434	- 46	+ 388	+ 66	- 107	- 41	+ 347
1947	+ 391	+ 22	+ 413	- 74	- 26	- 100	+ 313

Source: Same as Summary Table 2. The estimates of non-agricultural inventory increases for 1939 and prior years shown in Public Investment and Capital Formation were revised in the light of more recent information on book values and on methods of inventory costing.

(1) Includes agricultural inventories held by manufacturing enterprises.

In the non-agricultural business inventories sector there have been considerable increases in the value of inventories held since the end of the war. However, most of this increase in the last three years arose from the accounting procedure followed by the majority of firms in a period of rising prices. Only a small proportion of the net change in value of inventory holdings has meant any actual increase in the volume of business inventories and represents investment in inventories as used in this report.(1) On this basis non-agricultural business inventories increased more rapidly since the end of 1944 than they rose in the late 'twenties. The most rapid increase occurred in the first full post-war year, with inventories continuing to increase in 1947 but at a slower rate, and the same trend appears to be continuing in 1948. Currently inventories are still low in some lines and considered insufficient for efficient business operations.(2) In some lines - they are in the minority - surpluses have occurred and business has endeavoured to

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(1) Accounting procedure in valuing inventories has an important effect on the value of inventories reported on a firm's balance sheet and on the estimates of net profit. Accounting procedure aims at providing a generally understood and accepted estimate of income which will permit comparisons with accounting statements for other years and will serve as a basis for computing taxes. This requires following certain accounting principles or conventions which meet this aim and are acceptable for taxation and other purposes. In regard to inventories, this approach usually takes the form of valuing inventories at cost or market, whichever is the lower. Although there is a variety of accounting methods of arriving at cost, they all involve the use of accounting records on historic or actual costs of purchase or manufacture for the goods held in stock at the firm's fiscal year end. In a period of rising prices most of the methods commonly in use lead to a higher valuation per unit at the end of the accounting period than at the beginning, as lower cost items are replaced by higher costs for identical goods in the normal process of selling the goods out of stock. An example can be given to illustrate this. Suppose a firm holds 100 units of any particular goods at the beginning of the year, which have cost $3 each, and holds 110 units of the identical goods at the end of the year, but higher costs of purchase and manufacture have increased the accounting cost up to $4. The book value at the end of the period will be $440 (110 units at $4 each) while the book value at the beginning was only $300 (100 units at $3 each). However, there has only been an increase in the physical quantity of 10 units, with an average cost over the period of $3.50. The current value of the physical change is only $35, while $105 is the "capital gain" on inventories arising only from traditional accounting practice in a period of rising prices. For certain types of economic analysis it is desirable to work with the current value of the physical change in inventories. For example, in assessing the amount of resources devoted to inventory accumulation, it is desirable to have some information on the current value of the physical change in inventory holdings. The information necessary to make a completely satisfactory estimate along these lines for business inventories is not yet adequate, but preliminary and exploratory estimates are included in this report to permit some general impression of the magnitude of this item. The method used here follows that described in Public Investment and Capital Formation, op. cit., pp. 108-109.

(2) In some instance inadequate inventories simply mean a loss of business. For example, in the corrugated box field, competition in 1948 has become so intense that two days' delivery is insisted upon. In most instances, unless two day delivery dates can be met, purchasers will try other sources of supply.

curtail inventories. Such commodities include some consumer goods, e.g. boots and shoes, rubber goods and radios,(1) basic materials, e.g. certain types of lumber in the Maritimes, building materials, e.g. roofing and insulating materials, and capital goods, e.g. certain types of machine tools. In general, the trend of non-agricultural business inventory accumulation continues in an upward direction, although most of the early post-war momentum has disappeared.

The element of inventory speculation, usually an important factor in a period of rapidly rising business activity and prices, appears to have been a less important factor(2) than had been anticipated at war's end, when the course of decontrol was charted. Where inventories have been built up in substantial quantities in certain lines of soft consumer goods, they have been considered by the business community as part of the necessary process associated with output catching up with current sales, rather than a deliberate policy of withholding goods until they could be sold at higher prices. Generally, businessmen have been cautious in formulating an inventory policy and have tried to avoid large stocks to guard against loss in case of future declines of sales or prices (see Section V).

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(1) During 1948, when scarcities continued to exist in a large number of fields, the supply-demand position of radios has become the standard working example of what might happen to other industries if their output is not adequately adjusted, or cannot be adjusted readily, to meet increasing competition and a change in the demand situation. Radio manufacturers comment on the woes of the industry that there is little doubt that the Canadian radio industry can now produce more than the Canadian market can absorb. Competition had become keen, and price-cutting had started. Some manufacturers were reportedly dumping their products on the market.

(2) Report of the Special Committee on Prices, Ottawa, June 25, 1948, pp. 3951-3953.

Gross Domestic Investment

As significant as the increase of inventories in the non-agricultural business sector has been in the first full post-war year, it represented a considerably smaller demand on Canada's resources than capital expenditures by business enterprise. The current value of the physical change in non-agricultural inventories in 1946 amounted to $434 million, half the size of the total business investment in durable physical assets in the same year. In 1947, as capital expenditures by business increased but the rate of inventory accumulation declined, investment in inventories amounted to about one-quarter the business outlay on new construction and purchases of machinery and equipment. In spite of the relatively small drain on resources, inventory accumulation was an important factor in achieving more effective working of the economic system (see page 147). In absolute terms non-agricultural business inventory accumulation was much more significant than it had been in any single year in either the 'twenties or the 'thirties.

Since agricultural inventories declined substantially in 1945, only partially offset by increases in non-agricultural business inventories, the change in total inventories in this year shows a negative figure. This means disinvestment in inventory holdings. The result of combining investment (or disinvestment) in inventories and investment in durable physical assets yields gross domestic investment. This broad economic flow shows much greater variations between some years (see Summary Table 15) than investment in durable physical assets alone. This observation is of particular significance for the years 1945 and 1946. Looking at gross domestic investment as a whole, the data emphasize the fact that the demand on Canada's resources in 1946 was not expanding gradually as investment in durable physical assets data would suggest, but more abruptly. In the light of this it appears that had price controls not been continued throughout 1946 Canada would have experienced more excessive price rises than have occurred (see Section III).

SUMMARY TABLE 15. - GROSS DOMESTIC INVESTMENT, CANADA, 1945-1947

Year	Investment in Durable Physical Assets	Investment in Inventories	Gross Domestic Investment
		$ Mill.	
1945	1,148	- 324	824
1946	1,620	+ 347	1,967
1947	2,399	+ 313	2,712
		Per cent	
1945	139.3	- 39.3	100.0
1946	82.4	17.6	100.0
1947	88.5	11.5	100.0

Source: Same as Summary Table 2.

Investment and Exports

It has become quite a commonplace statement to say that Canada is one of the largest trading nations of the world and her prosperity is greatly dependent on the volume of her exports. What is not so generally realized is that Canadian prosperity rests on many pillars, of which exports is only one, although an important one. Investment is another pillar of prosperity, which in some respects is even less secure than exports. This may appear at first glance a surprising observation, for the volume of exports is largely determined by decisions made abroad while the volume of domestic investment is to a great extent determined by decisions made at home. But the observation is supported by historical records of Canadian economic fluctuations.

Investment in durable plysical assets declined in 1933 to one-quarter the capital expenditures made in 1929(1). Exports declined in the same period only to one-half (see Summary Table 16). Compared with these rather substantial declines other types of expenditures, particularly personal expenditures on consumer goods and services and Government expenditures on goods and services other than investment, declined less rapidly, with the result that gross national expenditure, the sum of all economic flows, declined by 1933 to only two-thirds of the 1929 level. The early part of the 'thirties has vivid memories for many people as a time of low incomes and large-scale unemployment resulting in a considerable lowering of the standard of living of the Canadian people. As conditions improved somewhat in the latter part of the 'thirties, the levels of both

(1) The differences that exist between private and public investment are much less marked than the differences between total investment and exports.

investment and exports rose, but by 1939 they were still below the achievements of the late 'twenties. Then the war came, with distorted demands for Canadian resources. It was not until the end of the war in 1945 that both investment and exports for peacetime purposes continued their upward swing interrupted by the outbreak of the war. Currently exports are in value terms about one and three-quarter times higher than in 1939, but investment is almost three times greater. Gross national expenditure increased about as much as changes in the level of exports (see Summary Table 16).

SUMMARY TABLE 16. - INDICES OF INVESTMENT IN DURABLE PHYSICAL ASSETS, EXPORTS OF GOODS AND SERVICES AND GROSS NATIONAL EXPENDITURE, CANADA, SELECTED YEARS, 1929-1948.

Year	Investment in Durable Physical Assets			Exports of Goods and Services	Gross National Expenditure
	Private	Public	Total		
1929	176	137	165	112	106
1933	41	47	43	57	62
1939	100	100	100	100	100
1945	144	142	144	246	210
1946	222	155	203	220	212
1947	330	224	301	249	239
1948	396	317	374	269	269

Source: Compilation based on estimates for columns 2 - 4 by Economic Research Branch, Department of Reconstruction and Supply, estimates for columns 5 and 6 from the National Accounts, published by the Dominion Bureau of Statistics.

There is another set of data which illustrates vividly that the fluctuations of investment are much larger than fluctuations of any other broad component of gross national expenditure, including exports. Investment and exports both make demands on the supply of goods and services available in Canada each year. The supply of these goods is largely determined by what is being produced in Canada or brought into the country from abroad in any one year, and what is being carried over from the previous year. Or, to put it in terms of the National Accounts, gross supply of goods and services is gross national product or gross national expenditure plus imports of goods and services. The question is: Have the demands of investment and exports on the total supply of goods and services available in Canada varied over the years? For most years the proportion of export demand has not varied significantly relative to gross national expenditure, and remained within a range of 24 to 27 per cent. In some years the proportion was much higher, e.g. 1945, a partial war year (30 per cent). Compared with this comparatively stable ratio the proportion of investment

to gross national expenditures shows a more erratic behaviour; from 18 per cent in 1929 down to 6 per cent in 1933, up to 10 per cent in 1939, and up further to 17 per cent in 1948 (see Summary Table 17).

SUMMARY TABLE 17. - INVESTMENT IN PLANT, EQUIPMENT AND HOUSING AND EXPORTS OF GOODS AND SERVICES AS A PROPORTION OF GROSS NATIONAL EXPENDITURE, CANADA SELECTED YEARS, 1929 - 1948.

Year	Investment in Plant, Equipment and Housing Per cent	Exports of Goods and Services Per cent	Gross National Expenditure $ Bill.
1929	18	27	6.0
1933	6	24	3.5
1939	10	26	5.6
1945	7	30	11.7
1946	11	27	11.9
1947	15	27	13.4
1948	17	26	15.1

Source: Compilation based on estimates from the National Accounts, published by the Dominion Bureau of Statistics.

These data support the conclusions: (1) that exports have varied considerably in absolute terms but that the demand for domestic supply of goods and services has remained a relatively stable proportion of gross national product and (2) that investment has varied even more widely than exports in absolute terms, and the demand on domestic supplies has been a less stable proportion. The evidence supports the contention that - at least in the past - investment has been a more volatile factor than exports. In the light of this historical record the general complaint that low levels of employment and income in Canada are largely associated with a low volume of exports should be supplemented by consideration of domestic investment and other factors.

Investment and Consumer Expenditure

As a basis for appraising the allocation of the resources of the economy between alternative uses in 1948, with a comparable pre-war boom year, available data are brought together in Summary Tables 18 and 19. Because of the general nature of the inquiry and the varying quality of available statistics this long run comparison can be conducted in approximate terms only. The available data bring out the following two points:

SUMMARY TABLE 18. - INDICES OF INVESTMENT IN DURABLE PHYSICAL ASSETS, PERSONAL EXPENDITURES ON CONSUMER GOODS AND SERVICES, GOVERNMENT EXPENDITURES ON GOODS AND SERVICES OTHER THAN INVESTMENT AND IMPORTS OF GOODS AND SERVICES, CANADA, SELECTED YEARS, 1929-1948

Year	Investment in Durable Physical Assets	Personal Expenditures on Consumer Goods and Services	Government Expenditures on Goods and Services Other than Investment	Imports of Goods and Services
1929	165	114	95	146
1933	43	73	79	62
1939	100	100	100	100
1945	144	180	616	218
1946	203	205	280	216
1947	301	230	203	271
1948	374	253	222	271

Source: Compilation based on estimates for column 2 by Economic Research Branch, Department of Reconstruction and Supply, and remaining estimates from same source as Summary Table 17.

SUMMARY TABLE 19. - ALLOCATION OF GROSS SUPPLY OF GOODS AND SERVICES, BETWEEN ALTERNATIVE USES, CANADA, SELECTED YEARS, 1929 - 1948

Year	Proportion of Gross Supply of Goods and Services Per cent					Gross Supply of Goods and Services(1) $ billion
	Plant Equipment and Housing	Inventories	Personal Expenditures on Consumer Goods and Services	Government Expenditures on Goods and Services	Exports of Goods and Services	
1929	14	0	56	9	21	7.9
1933	5	- 2	66	12	19	4.3
1939	8	+ 5	56	10	21	6.9
1945	6	- 2	47	25	24	14.6
1946	9	+ 3	54	12	22	14.7
1947	12	+ 5	53	9	21	17.0
1948	14	+ 4	52	9	21	18.7

Source: Same as Summary Table 17.
(1) Gross national product or gross national expenditure plus imports of goods and services.

1. The most stable economic flow in the last twenty years - if the war years are excluded - was Government expenditures on goods and services other than investment. Personal expenditures on goods and services were a close second. Imports and exports of goods and services fluctuated more substantially than the two first-mentioned components, but investment fluctuated even more violently than any of the other groups.

2. In 1948 personal expenditures on consumer goods and services absorbed 52 per cent, as compared with 56 per cent in 1929, of the gross supply of goods and services, i.e. gross national product and imports.(1) However, allowing for price changes, which have been smaller in this sector than in most other sectors, this proportion is raised for 1948 to 57 or 58 per cent, suggesting that the consumer is relatively better off in 1948 than he was in 1929. In the investment field the situation is reversed. In current dollar terms, plant, equipment and housing expenditures made up 14 per cent of the gross supply of goods and services, in both 1929 and 1948. But allowing for price changes, which were more rapid in this sector than in any other, the ratio for 1948 is reduced to 12 per cent, indicating that Canada is devoting a smaller proportion of her resources to investment in this year than in the previous peacetime peak of 1929.

Investment and the Level of Employment and Income

In 1948, with investment in absolute terms at its highest level in Canada's history, employment and income had also reached record heights. Corresponding with this development the standard of living of the average Canadian as measured by consumer expenditures on a per capita basis was higher than ever before (see p. 25). This is not to suggest that Canada has high levels of employment and income because investment is high. The point is to emphasize the contribution that investment makes to levels of employment and income, rather than to refer to the causal relationship between one component and the aggregate of economic activity. The appraisal suggested above can be simplified by examining the role of investment and the course of total economic activity at two different points of time at

(1) All 1948 figures are preliminary, and changes of 2 or 3 per cent in either direction are within the realm of possibility. The conclusions reached here remain therefore tentative until firmer figures become available later in 1949.

which full, or almost full use of available resources has been made. The comparisons are therefore made below between 1929, the last year of peace-time full employment of resources, and 1948, the peak year of economic activity since the end of World War II. The conclusions can be regarded as tentative only, for several reasons:

Conditions leading to high levels of employment and income in 1929 differ from those of 1948. To mention only a few outstanding instances: (a) a large backlog of unfilled needs led to the high activity in 1948, but in 1929 ten years had passed since World War I, in which a large part of the backlog resulting from deferred demand during the war had disappeared; (b) rapid rises of prices between 1946 and 1948 corresponded more to the developments between 1919 and spring of 1921 than to the period of slower moving prices of 1927 to 1929; (c) absence of speculative emotionalism in the post-war boom period of 1946-1948 as compared with the rapidly rising stock market during 1927-1929.

Between 1929 and 1948 Canada's population increased from 10 million to 13 million (see Summary Table 20) her labour force rose from almost 4 million to over 5 million, and her non-agricultural employment from 2.6 million to 3.7 million. In the same period gross national expenditure increased by over 150 per cent or almost doubled in real terms. Part of the expanded output of the nation was due to increase in the labour force, part due to changes in living habits. For example, a woman who might have worked at home in 1929 with no effect on the gross national product as currently defined, might be working in a store in 1948. By doing so she would contribute to gross national product in several ways - first through the value of her own services, and second by the fact that her washing may now be done by a laundry, her cooking done by a restaurant, and her clothing made at a factory. Another factor which would contribute to an increase in the gross national product would be an industrial shift of the labour force, with workers moving from industries with lower output per man to industries with higher output per man. However, the largest portion of the increase that has occurred would be due to a rise in productivity, as a result of the added skills acquired by both management and workers and the high rate of capital accumulation that occurred in the 'twenties and was resumed in the 'forties (see Section IV).

SUMMARY TABLE 20. - POPULATION AND COMPONENTS OF GROSS NATIONAL EXPENDITURE, CANADA, 1929 AND 1948
(All value figures in $ billion)

Item	1929	1948	Increase Percent Value figures in	
			Current Dollars	Constant Dollars
Population - Million	10.0	12.9	28	-
Gross National Expenditure	6.0	15.1	153	86(1)
Investment in Durable Physical Assets	1.3	3.0	127	35
Personal Expenditure on Consumer Goods and Services	4.4	9.8	123	72
Exports of Goods and Services	1.6	3.9	139	62

Source: For estimates of value figures in current dollars, see Summary Table 18. Estimates in constant dollars are first approximations by Economic Research Branch, Department of Reconstruction and Supply. Population estimates by courtesy, Dominion Bureau of Statistics.

(1) The main reason for the increase in the volume of gross national expenditure being larger than that of the components shown above is the decline in the volume of imports resulting in a larger domestically-produced output.

The type of investment has also changed since 1929. In the 'twenties the emphasis in Canada was still on an extensive opening up of the country, and a large part of the investment program went into expanding the national transportation system, particularly through an increase of the railway mileage and through making mining country accessible. Investment of a similar type included large supplies of equipment to settlers in the west and the extension of electrical and telephone facilities to both city and rural dwellers. In 1929, 27 per cent of the total investment program went into utilities, 18 per cent for agriculture and other primary industries, and only 21 per cent for manufacturing, commercial, merchandising and service type of business. The situation had changed by 1948, when only 18 per cent was for utilities, 14 per cent for primary industries, but 31 per cent for manufacturing and other types of business investment (see Summary Table 21). The type of utilities expanding had also changed in this period. In 1929 the major utility capital expansion was for electrical and steam railways, while in 1948 a higher proportion was for hydro development (see Summary Table 22). The latter would be a companion process of intensive expansion through rapid growth of manufacturing industry rather than a continued opening up of the country in an extensive sense, as occurred in the earlier part of the twentieth century.

SUMMARY TABLE 21. - PROPORTION OF COMPONENTS OF INVESTMENT IN DURABLE PHYSICAL ASSETS, CANADA, 1929 and 1948

Component	1929 Per cent	1948 Per cent
Utilities	27	18
Primary Industry	18	14
Manufacturing, Commercial, Merchandising and Services	21	31
Institutions, Housing and Direct Government	34	37
Total Investment	100	100

Source: Same as Summary Table 2.

SUMMARY TABLE 22. - COMPONENTS OF INVESTMENT IN DURABLE PHYSICAL ASSETS, CANADA, 1929 and 1948
($ million)

Component	1929	1948	Change Per cent
Electrical and Steam Railways	215	166	- 23
Electric Light and Power	76	204	+ 168
Telephone	45	106	+ 136
Other Utilities	22	52	+ 136
Total Utilities	358	528	+ 47
Primary Industry	235	432	+ 84
Manufacturing, Commercial, Merchandising and Services	277	913	+ 230
Total Business	870	1,873	+ 115
Institutions, Housing and Direct Government	446	1,111	+ 149
Total Investment	1,316	2,984	+ 127

Source: Same as Summary Table 2.

Increases in output in the twenty-year period reviewed here have meant not only more goods and services for home consumption but also a larger volume which Canadians want to export in return for goods and services from other countries. The latter factor accounts for the increasing role of Canada as a world trading nation. To an important degree this development depended on the rate of Canadian capital formation. This expansion has taken place, though it has occurred by fits and starts.

Whenever the process of capital expansion was interrupted, this period coincided with levels of low income and employment. Whenever the trend was resumed in an upward direction, prosperity prevailed. Increasing importance has been attached in Canada in the last decade or so to the role of investment as a factor contributing to changes in the level of employment and income (see Section VI). So far little has been done to reconcile the divergent interests between the immediate employment and income giving effects of investment and the production and service effects of investment (see Section IV). The former may counsel increasing investment when a decline of economic activity is in sight, the latter may require a slowing down of capital expenditures even if excessive demand makes increased production desirable (see Section VI).

Comparison with United States

Reasonably comparable data are available for non-government investment in durable physical assets in Canada and the United States, and the role which this component plays as a part of total output in each of the two countries. Of several observations that can be made, two stand out:

(1) During the last two decades Canada has devoted a larger proportion of her resources for investment in aggregate than the United States (see Summary Table 23).

(2) In the last two years Canada has been expanding her manufacturing industry at a rate 20 per cent higher than the United States, while in the 'thirties Canadian industry - hit more severely than American industry because of the smallness of the domestic market and lack of initiative - had been making proportionately smaller capital expenditures than its counterpart in the United States. In housing Canada is also spending currently more than her neighbour to the south, a reversal of the position of the late 'thirties (see Summary Table 24).

Looking broadly at the investment - national output relationship in the two countries, it is not surprising to find that Canada is devoting a larger portion of her resources to investment than the United States. The United States is the most industrialized nation of the world and her people enjoy the highest standard of living. It is only natural that Canadians, whose country is richly endowed with natural resources but whose population is much smaller than that of the United States - approximately

one-eleventh - would endeavour, spurred by the example of achievements just across the border, to catch up in terms of productive efficiency and standard of living. Hence, wherever circumstances permit, more money is being spent on investment in manufacturing and housing, and these expenditures have been, and are, paying off, as is suggested in Section IV.

SUMMARY TABLE 23. - INVESTMENT IN DURABLE PHYSICAL ASSETS EXCLUDING DIRECT GOVERNMENT, BY CONSTRUCTION AND MACHINERY AND EQUIPMENT, AS A PROPORTION OF GROSS NATIONAL EXPENDITURE, CANADA AND UNITED STATES, SELECTED YEARS, 1929-1948.

Year	Canada: Non-Government Investment in Durable Physical Assets as a Proportional Gross National Expenditure, Per cent			Gross National Expenditure	United States: Non-Government Investment in Durable Physical Assets as a Proportional Gross National Expenditure, Per cent			Gross National Expenditure
	Construction	Machinery and Equipment	Construction and Machinery and Equipment	$ Bill.	Construction	Machinery and Equipment	Construction and Machinery and Equipment	$ Bill.
1929	10.5	8.1	18.6	6.0	7.6	6.1	13.7	103.8
1933	3.8	2.6	6.4	3.5	2.0	3.2	5.2	55.8
1939	4.8	5.1	9.9	5.6	4.4	5.1	9.5	90.4
1945	3.9	3.5	7.4	11.7	1.5	3.3	4.8	213.1
1946	5.8	5.3	11.1	11.9	4.2	6.1	10.3	203.7
1947	7.6	7.6	15.2	13.4	4.7	7.8	12.5	229.6
1948	8.3	7.6	15.9	15.1	5.8	8.3	14.1	248.2

Source: Estimates for Canada same as Summary Table 18. Estimates for the United States from Survey of Current Business, U.S. Department of Commerce, issues July 1947 Supplement February 1948 and August 1948.

SUMMARY TABLE 24. - INVESTMENT IN DURABLE PHYSICAL ASSETS EXCLUDING DIRECT GOVERNMENT, BY TYPE, AS A PROPORTION OF GROSS NATIONAL EXPENDITURE, CANADA AND UNITED STATES, SELECTED YEARS, 1929 - 1948.

Year	Canada: Non-Government Investment in Durable Physical Assets as proportion of Gross National Expenditure — Per cent				Gross National Expenditure	United States: Non-Government Investment in Durable Physical Assets as a proportion of Gross National Expenditure — Per cent				Gross National Expenditure
	Manufacturing	Housing	Other	Total	$ Bill	Manufacturing	Housing	Other	Total	$ Bill.
1929	3.3	3.5	11.8	18.6	6.0	2.8	2.8	8.1	13.7	103.8
1933	1.2	1.4	3.8	6.4	3.5	1.4	.6	3.2	5.2	55.8
1939	1.9	2.1	5.9	9.9	5.6	2.1	2.4	5.0	9.5	90.4
1945	1.7	1.7	4.0	7.4	11.7	1.5	.4	2.9	4.8	213.1
1946	2.7	2.8	5.6	11.1	11.9	2.9	1.7	5.7	10.3	203.7
1947	3.8	3.4	8.0	15.2	13.4	3.2	2.3	7.0	12.5	229.6
1948	3.9	3.6	8.4	15.9	15.1	3.2	2.5	8.4	14.1	248.2

Source: Same as Summary Table 23.

II. SUPPLY OF AND DEMAND FOR RESOURCES

How have Canadian business and labour responded to the urgent post-war demands for a large volume of capital goods? The answer is gratifying indeed. Industrial capacity and production increased at a rate in many fields unsurpassed by past accomplishments. Many new products have been added to the list of capital goods now produced in Canada which were formerly imported.

How important have imports of capital goods, and component parts and materials been in easing the Canadian shortage of machinery and equipment in the post-war period? Canada's proximity and access to the vast industrial potential of the United States was an important factor in securing scarce supplies. The large volume of imports from the United States made possible the accomplishment of the large investment program carried out from 1945 to 1947. Although imports of machinery and equipment, on the whole, levelled off in 1948, with declines in some items, the expansion of Canada's own capital goods industries, which commenced with the end of the war, began to pay off. The large volume of investment that is being accomplished in 1948 will, to a considerable extent, be the result of greater domestic capital goods production. Thus, were it not for the large volume of imported capital goods available from the United States, and rapidly expanding Canadian production of these goods, the costs of capital goods - in the absence of an elaborate system of controls - could easily have been 50 per cent higher than they are today, with all of the consequent effects on the general level of prices.

The degree of inflation which Canada experiences today should, therefore, be considered in relation to the price advances that might have occurred. Seen in proper perspective, Canada's investment program could have been a much greater inflationary factor but for a series of fortunate circumstances discussed below.

Investment Demand at the End of World War II

When hostilities ended in 1945 Canada had accumulated a large volume of investment projects. The barriers of wartime needs and controls had only to be removed to let loose this avalanche of orders for capital goods serving peacetime purposes. The accumulated backlog of capital and maintenance expenditures was mainly the result of two factors: (a) the lack

of replacement, modernization and expansion of the capital structure during the depressed 'thirties, and (b) the low volume of investment for purely civilian purposes during the war, which in many industries aggravated the condition of a capital structure already weakened from previous under-maintenance.

In the 'thirties, investment in durable physical assets was about two-thirds of what it had been in the 'twenties. In 1933 the volume of investment in manufacturing was down to about 25 per cent of the level in 1929. By 1937, when there had been some recovery in manufacturing, investment was up to only 63 per cent of the 1929 level. Similar declines occurred in utility investment and housing construction. In these fields the volume of investment dropped to 17 and 37 per cent respectively by 1933, and recovered only to the extent of 43 and 68 per cent by 1937. But while the volume of investment dropped sharply, other parts of the Canadian economy did not stand still. Population increased by a million in the 'thirties. The process of urbanization, though retarded because of large-scale unemployment, continued. New inventions were made, new industrial techniques were developed and new processes were introduced.

When economic conditions and business prospects improved towards the end of the 'thirties, the outbreak of the war interfered with the carrying out of investment plans that had accumulated. Canada's war effort during the period from 1939 to 1945 necessitated the diversion of a large segment of the productive capacity of the country to turning out materials and equipment for her own armed forces and those of allied nations. Little building material and fewer workers could be spared to meet the need for civilian plant and equipment and other types of facilities. The large-scale investment program that was called for had to await the conclusion of the war.

How important a claim on Canada's industrial resources was made by military demands is illustrated by the following figures: employment in war industries, which was about 100,000 at the beginning of the war, reached a peak of 1,166,000 persons by October, 1943. In 1943 and 1944, two-fifths of Canada's gross national product of $11.1 billion and $11.8 billion, respectively, was accounted for by Government war expenditures.(1) As military

(1) National Accounts, Income and Expenditure, 1938-1945, Dominion Bureau of Statistics, Ottawa, 1946, p. 7.

events turned more favourably for the allies during 1944, some war production programs were curtailed and employment in war industry tapered off.[1]

By that time large demands for investment projects had accumulated in all segments of the economy. Munitions factories had to be reconverted, modernized and extended. New industrial establishments were needed to add to existing capacity in manufacturing, mining, hydro power production. Transportation facilities had to be replaced and increased and this applied equally to the railroads, shipping, truck and passenger motor vehicle transport. Communications equipment was far from adequate to meet new demands. Telephone exchanges had to be built, additional telephone equipment had to be secured, and new communities had to be wired for service. Farm equipment, office buildings, retail establishments, roads, bridges were just a few of the many other capital needs after the war.

Just how large the accumulated demand actually was has never been determined by means of national survey. However, by piecing together evidence available for some fields[2] and allowing for similar deficiencies in other fields, some estimates of the backlog are possible. At the end of the war Canada appeared to be in need of some $12 billion (in 1945 prices) of capital equipment. Approximately half of this was for business capital expansion, $2 1/2 billion each needed for housing and Government investment, and another $1 billion to make up deficiencies in institutional investment.[3] Obviously such a large investment program had to be carried out over a number of years, since capacity for capital expansion was limited and each year created new capital needs.

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(1) Manpower and Material Requirements for a Housing Program in Canada. Department of Reconstruction and Supply, Ottawa, 1946, p. 14.

(2) List of Proposed Works for Post War Construction, Canadian Construction Association, Ottawa, 1945, pp. 4 ff, and Final Report of the Subcommittee on Housing and Community Planning, Advisory Committee on Reconstruction, Ottawa, 1946, p. 140.

(3) The definition of accumulated demand, frequently called "backlog," refers to the amount of capital expenditures required to enable Canadian industry to make full and effective use of advances in technology, make good under-maintenance of the 'thirties and war years, provide sufficient capital per worker commensurate with the needs of an advancing industrialized nation, and to provide all the other community facilities required to meet the growing needs of the Canadian population. But only a portion of this accumulated demand would have been immediately effective when the war ended. Another portion would become effective at a later date, when business prospects were brighter than they were in 1945, while still another portion would not become effective unless and until certain Government action had been taken, e.g. low rental housing. If Canada had sufficient resources to meet all the immediately effective investment demand it is doubtful whether the investment program carried out in the first post-war year would have involved more than one-third of the accumulated demand.

The speed with which Canada's investment program could be translated from the idea stage into plants, machinery and equipment, housing, roads and public buildings, depended to a large extent on the process of physical reconversion, redistribution of the labour force to new tasks, the maintenance of industrial peace and the supply of capital goods from abroad.

Post-war Economic Conditions Favour Expansion of Capital Goods Output

Strong and insistent demands backed by the large financial reserves of business and individuals (see Section V) set the course of private investment in the post-war period. The volume of investment actually accomplished since the war was determined largely by the supply of manpower, materials and equipment.

In almost all lines of capital goods and building materials, demand has continued to exceed supply. Consequently, the prices of capital goods were driven up sharply to about double those prevailing in 1939 and about one-third higher than in 1945. These price increases could be interpreted as the failure of domestic production and imports of foreign capital goods to increase rapidly. However, this is not supported by the available evidence. Generally speaking, industrial expansion, and the readjustment of the economy to peacetime pursuits, was accomplished speedily and smoothly. In this transition period comparatively little hardship was experienced by the veterans and war workers who were most directly affected. Some difficulties in expanding the supply of capital goods were encountered and reference to these is made below.

The dimensions of the reconversion problem are not often recognized. On V-E Day (May 8, 1945), some 888,000 persons were employed in Canada's war industries. On V-J Day (August 15, 1945) more than half of the peak working force, some 600,000 persons, was still engaged either directly or indirectly in war work.(1) Although the reconversion process had by no means been completed by the end of 1945, a large part of former war producers were already turning out civilian goods. At the same time the realignment of the working force had progressed sufficiently - in spite of many difficulties presented by the need for occupational shifts and labour mobility - to permit increased output for peacetime use.

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(1) Location and Effects of Wartime Industrial Expansion in Canada, 1939-1944, Department of Reconstruction and Supply, Ottawa, November, 1945, p. 28.

By March, 1946, Canada had about half completed the economic transition from war to peace. Most of the demobilization had been accomplished and firms that could switch readily to peacetime production had made the change. Reconversion of plant in manufacturing industries formerly engaged in war production was well advanced but far from complete. By August, 1946, one year after V-J Day, reconversion of these industries was approaching the three-quarter mark. But reconversion of productive facilities was only one part of the effort made by manufacturing industries to gear their facilities for peacetime production. Industry had prepared programs of modernization and expansion designed to increase efficiency, to serve better the domestic consumer and generally to strengthen the position of the country in international trade. A survey of manufacturing industries showed that no less than half of the firms covered were embarking on programs of modernization and/or expansion of their productive facilities(1).

During the first year that reconversion was in progress, large numbers of men and women either in the armed forces or formerly employed in war industries had moved to the production and distribution of peacetime goods and services. Between June 1, 1945 and June 1, 1946, approximately 620,000 servicemen had been discharged and 720,000 persons had been released from war work. In spite of the magnitude of this manpower shift, the number of unemployed was kept surprisingly low, never reaching more than about 270,000 out of a total working force of close to 4.8 million persons. The peak level of transitional unemployment was reached in March, 1946. By August, as the post-war expansionary forces developed, unemployment had declined by 100,000(1).

Supply and manpower shortages and management-labour disputes were unavoidable during the transition. However, the reconversion and re-equipment of industry made rapid progress until the Autumn of 1946. By that time some of the large strikes that had occurred during the summer, which preceded the new wave of strikes in the fall, had the effect of slowing down the progress of industrial reconversion and expansion. As the Spring of 1947 approached the effects of the 1946 management-labour disputes had been largely overcome and the Canadian economy was once again on the road of expansion. This

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(1) Reconversion, Modernization and Expansion, Progress and Programs in Selected Canadian Manufacturing Industries, 1945-1947, Department of Reconstruction and Supply, Ottawa, August, 1946, pp. 7-8.

process has continued until the present (end of 1948) without any serious interruptions comparable to those experienced in the Summer and Autumn of 1946. As a result, physical reconversion of plants was virtually completed by mid-1947 and the labour force was more or less fully adjusted to its new tasks. The decks were clear for peak output. And this objective was reached.

The high levels of production achieved in the investment goods industries during 1947 and 1948 were little affected by a new and serious problem which came to a head in November, 1947 - the worldwide United States dollar shortage. Industrial expansion at home was proceeding at peak rate. International political and economic relations, in which Canada as a world trading nation has an important stake, became more difficult and hoped-for improvements did not materialize. Political and economic relations between "East" and "West" deteriorated. Because of wartime destruction and dislocation, the vast need for raw materials, capital goods and the vicious circle of balance of payments difficulties which faced most European countries,the expected improvement in the economic relations of the chief trading nations did not materialize.(1) Bad crops, political uncertainties and social unrest added to the effects of physical destruction and contributed to the delay in European recovery. Canada, at this time, was making a greater per capita contribution to European reconstruction than was any other country. Consequently by the Autumn of 1947 she was faced with a serious exchange problem, since this aid was being financed in part by drawing on Canada's exchange reserves. These difficulties were accentuated by the high level of internal prosperity which raised to unprecedented levels.the demand for imported consumer goods. Obviously, this could not go on. Canada's exchange reserves of gold and United States dollars reached the low level of $480 million in November, 1947, in contrast to holdings of $1.7 billion in May, 1946. The exchange problem imposed new objectives of industrial expansion and readjustment, a second phase of the transition period. To aid the readjustment called for by Canada's exchange problem Parliament passed the Emergency Exchange Conservation Act in the Spring of 1948 (see Section VI).

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(1) The pound sterling, the leading currency of the world before the war, remained but for the short space of a few weeks an inconvertible currency, a particularly hard blow for Canada, which was a net exporter to Great Britain.

It is against this background of rapidly changing economic conditions during the transition from war to peace that the supply - demand position of investment goods industries should be appraised.

Basic Materials: Supply - Demand

Surplus and Deficit of Basic Materials

Basic materials may be defined as raw materials that require processing or further adaptation before they become finished goods, or that are used directly in the production of other goods. For example, sawn lumber requires little processing when used to build a house; iron ore, before it is made into nails, requires the following stages of processing and adaptation: pig iron, steel ingots, steel blooms, steel billets, steel rods, steel wire.

A distinction may be made between basic materials and building materials. The latter are dealt with in detail later. With regard to basic materials Canada is able to achieve a balanced supply of these only by trading her surplus production of some for imports of others. For example while Canada has large surpluses of lumber, asbestos, gypsum, copper, lead, zinc and nickel for export she depends heavily on imports of steel, coal and coke. On the other hand Canada is almost self-sufficient in building materials (see p. 72).

Basic materials find their way into capital goods either directly, e.g., steel used in the manufacture of machinery, or via the building material stage, e.g., steel used in the fabrication of pipes, which in turn are installed in a building. Basic materials, of course, have many other uses besides being required for the creation and maintenance of capital goods, for they are also the raw materials for the manufacture of nearly all consumer durable and semi-durable goods, from motor cars and washing machines to cooking utensils and toys. It is estimated that in 1939 about 25 per cent of economic activity depended on a steady flow of basic and building materials[1]. Today, the proportion has increased to around 35 per cent.

Of the eleven basic materials reviewed here, in seven Canada exports more than she consumes at home. Exports vary from 51 per cent for lumber to 95 per cent for gypsum (see Summary Table 25). Of the four basic materials in

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(1) Production of Basic and Building Materials, Outlook 1947, Department of Reconstruction and Supply, Ottawa, 1947, p. 5.

which Canada is dependent on imports for a significant proportion of her total supply, iron ore and coal head the list. Imports of each of these materials are about twice current domestic production. Imports of steel mill forms (in crude steel equivalent) are currently approximately 36 per cent of total domestic output, and coke about 17 per cent.

SUMMARY TABLE 25. - EXPORTS AND IMPORTS OF SELECTED BASIC MATERIALS AS PROPORTION OF DOMESTIC PRODUCTION, CANADA, 1947.

Item	Per Cent
Surplus Materials	
Exports as Proportion of Domestic Production	
Lumber	51
Asbestos	95
Gypsum(1)	75
Copper(2)	51
Lead(2)	83
Zinc(2)	83
Nickel(2)	94
Deficit Materials	
Imports as Proportion of Domestic Production	
Iron Ore	195
Crude Steel and Equivalent(3)	36
Coal	182
Coke(4)	17

Source: See Table I in Appendix A.
(1) Shipments plus quantities used by producers.
(2) Primary, all forms.
(3) Steel ingots plus the estimated ingot equivalent of finished and semi-finished steel mill forms.
(4) Made from coal.

With regard to the seven materials of which Canada has a surplus, production during the post-war years was far in excess of domestic demand. No domestic shortages would have appeared but for the fact that export prices were frequently more attractive than domestic prices. This tended to drain away the supply from the home market. Export controls continuing after the end of the war (see Section VI) were designed to keep sufficient quantities of basic materials at home to meet the most urgent domestic needs. Production in all these items increased substantially between 1939 and 1948 except in copper and lead, where the difficulties encountered were labour shortages, and the physical readjustment of mining operations, which include the mining of

low-grade ores formerly not exploited (see Summary Table 26).

SUMMARY TABLE 26. - CHANGES IN PRODUCTION, EXPORTS AND IMPORTS OF SELECTED BASIC MATERIALS, CANADA, 1939-1948
(in per cent)

Item	1939 to 1945		1945 to 1948(1)		1939 to 1948(1)	
	Production	Exports or Imports(2)	Production	Exports or Imports(2)	Production	Exports or Imports(2)
Surplus Materials						
Lumber	+ 14	- 10	+ 17	+ 22	+ 33	+ 11
Asbestos	+ 21	+ 28	+ 58	+ 47	+ 92	+ 88
Gypsum	- 41(3)	- 56	+ 216(3)	+ 240	+ 86(3)	+ 51
Copper(4)	- 22	- 39	+ 1	- 2	- 21	- 40
Lead(4)	- 11	- 38	- 2	- 10	- 13	- 44
Zinc(4)	+ 31	+ 21	- 10	- 13	+ 18	+ 6
Nickel(4)	+ 8	- 9	+ 5	+ 13	+ 13	+ 2
Deficit Materials						
Iron Ore	- (6)	+ 112	+ 76	0	- (6)	+ 113
Crude Steel & Equivalent(5)	+ 86	+ 77	+ 11	0	+ 106	+ 77
Coal	+ 5	+ 67	+ 12	+ 14	+ 18	+ 90
Coke (made from Coal)	+ 60	+ 185	- 4	- 54	+ 54	+ 31

Source: See Table I in Appendix A.
(1) Estimated.
(2) Exports for surplus materials and imports for deficit materials.
(3) Shipments plus quantities used by producers.
(4) Primary, all forms.
(5) Production figures are for steel ingots and direct steel castings and export and import figures cover steel ingots plus the estimated ingot equivalent of finished and semi-finished steel mill-forms.
(6) The percentage increase is not meaningful because Canadian output of Iron Ore was negligible in 1939 (only 124,000 tons) or about 6 per cent of 1948 output.

Lumber Problem

The output of lumber during 1946-1948 was around 5 million board feet, greater than production in any similar previous period. Still Canada's needs were not fully met, mainly because domestic users had to compete with foreign customers, who were consistently outbidding Canadian consumers. This situation continued even after September, 1947, when domestic price ceilings on lumber and lumber products were lifted. Although domestic lumber prices are moving up to world levels, they are still about 20 per cent lower. In this situation export controls had to be maintained in order to assure adequate supplies in Canada. The industry claims that domestic lumber prices, which have risen about 200 per cent since 1939, are still too low to provide adequate returns on Canadian sales. It claims that Canadian prices are being

subsidized by foreign higher priced sales.[1]

Coal Bottleneck

Of the four basic materials of which Canada is a heavy importer, one item, coal, has been a serious bottleneck in 1946 and 1947. This situation improved considerably in 1948.

Domestic output of coal in 1946 and 1947 was some 15 per cent lower than in 1945. Among the reasons for this were: serious management-labour disputes, a high rate of absenteeism, low productivity and inadequate equipment. With some of these difficulties overcome, output in 1948 is expected to be almost as large as in 1945. As a result of increased domestic output, coal producers have been able to meet substantially the growing demand of Canadian industry - which uses about three-quarters of the total coal supplies - without increasing imports over the 1947 level. However, imports of foreign coal still make up a large proportion of total Canadian supply. Further, with coal prices abroad rising (see Table XXII in Appendix A) and Canadian prices following their lead, rapidly increasing fuel costs have been a significant factor in the increased cost of investment goods.

Steel Shortage

Before the atomic bomb the second half of the nineteenth century and the first half of the twentieth century was called the age of steel. The wide use of steel in all sectors of the economy in peace and war has made it a key material. An adequate supply of steel has become one of the prerequisites to rapid industrialization and to the application of advanced production techniques. But today, and ever since the end of World War II, steel has become a major stumbling block to industrial expansion. Before the war Canada had what then appeared to be adequate capacity. Special types of steel in various stages of fabrication were imported at that time, mainly from the United States, the United Kingdom and Sweden. In 1939 imports of crude steel amounted to 42 per cent of total domestic production. Since then output of basic steel has doubled in Canada and is currently 3.2 million tons a year, equal to the wartime peak in 1942. In spite of the significant increase in output of steel, which in 1948 is supplemented by steel imports of over

(1) For discussion of the lumber supply, demand and price problem, see Minutes of Proceedings and Evidence, Royal Commission on Prices, No. 27, pp. 194-7, No. 28, pp. 1526-30, and No. 30, pp. 1651-58.

1.1 million tons, mainly from the United States, Canada is said to be short of steel, estimated to vary between 400,000 and 1 million tons per year.(1)

Canadian machinery and equipment producers have been able to obtain an increasing share of the available steel supplies since 1946 (see Summary Table 27). This has been one of the important reasons why these industries have been able to meet a large part of the increased demand for their products. But the outlook for providing adequate steel supplies, without increase in domestic capacity is not very encouraging at the moment. Following a recent understanding reached between the United States and Canadian governments, this country may expect a smaller volume of imports from her neighbour.(2) Canadian steel capacity is almost fully used, with no enlargement in capacity in immediate sight. In 1949 new demand on steel to provide for a military preparedness program will be made in an already tight situation. The most promising development in the steel picture is perhaps the growing realization by both industry and government that the situation is really a serious one and that some measures should be taken in the near future to improve domestic capacity.

SUMMARY TABLE 27. - SHIPMENTS OF DOMESTICALLY PRODUCED CARBON AND ALLOY STEEL SHAPES TO SELECTED MACHINERY AND EQUIPMENT CONSUMING INDUSTRIES,(1) CANADA, 1946-1948.

Year	Thousands of Net Tons
1946	480.5
1947	705.5
1948	792.0

Source: See Table II in Appendix A.

(1) Automotive, Agricultural Implements, Machinery and tools, Pressing, Forming and Stamping, and Railway Rolling Stock.

(1) See note on the steel shortage in Canada in Appendix B, and Canada Seeks Steel Around World, As Defence, Industry Needs Grow, Montreal Gazette, October 27, 1948.

(2) According to an announcement made by the Canadian Government on October 18, 1948, imports of iron and steel from the United States have been limited to approximately 200,000 tons for the fourth quarter of 1948. This is a reduction of 22 per cent from the average quarterly for 1947 and 18 per cent from the average quarterly level in the first half of 1948. Press Release, Department of Trade and Commerce, October 18, 1948.

The effect of the steel shortage on the Canadian economy has been described in the following way: In Canada the steel shortage has limited industrial production in general, and many industries have been operating below capacity. In some plants production has at times been stopped entirely. Productivity has been adversely affected and production costs greatly increased. The pressure on prices has been maintained by the resulting shortages of manufactured goods. At the same time rising steel prices, though restrained by controls and subsidies, have been a powerful lever in the general increase in prices.

Limits have also been imposed on industrial development. Expansion, replacement and modernization of industry have at many points been delayed or deferred particularly in the hydro power, petroleum and pulp and paper industries. Consequently Canadian progress toward a more diversified and stable industrial structure and eventual solution of balance of payments difficulties has been retarded.(1)

It is sometimes argued that the shortage of steel has limited the degree of inflation in Canada. The reasoning runs like this. The present high level of investment is one of the most inflationary of the domestic pressures on the Canadian price level. At the current high level of employment and real incomes, the demand for capital goods still continues unabated. The shortage of steel for construction and for the manufacture of machinery and equipment has been one of the main limiting factors in the investment boom. The situation is unique that a shortage may limit demand, but because certain investment projects can be deferred, particularly under current conditions, the shortage of steel may act as a brake on inflation by retarding the increase in total investment, and thereby restraining the inflationary pressure from this source.

There is some plausibility in this argument, but there are certain other factors that require considerations. Two of these are:

1. It is possible that the amount of projects postponed because of shortages is not significant enough to lessen the inflationary pressure notably. For one thing, many investment projects cannot be deferred much

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(1) For background information on the steel shortage and its impact on the various industries, see note on the steel shortage in Canada in Appendix B.

longer since many deferments go back to the thirties. Also consumer durables are large users of steel and any release of resources from the capital goods sector would readily be absorbed here. The effective demands in essential investment projects and high consumer durable spending may be more significant than the number of projects deferred because of the shortage of this key commodity.

2. Increased steel supplies would mean increased productive efficiency and a larger stock of capital equipment, which would permit higher real incomes in the not too distant future. Steel shortages are wasteful in that men are kept on and turned to maintenance and other types of work if shortages of supplies hold up manufacturing operations. Increased efficiency(1) in fabricating plants will mean higher real output per worker in the future, and permit higher real incomes for the consumer. Increased steel supplies would also make possible the modernization and expansion of industrial plants, machinery and equipment and permit the use of new production techniques based on inventions and innovations. The sooner new, improved and expanded plants come into operation and turn out both consumer and capital goods in larger quantities and better qualities, the sooner will new high levels of real income be achieved. It is desirable that these high levels of real income be attained with as little inflationary pressure or price distortion as possible.

Supply and Demand in Construction

Construction Labour - Supply

A rapid increase in the construction labour force was one of the important factors which made possible a large expansion of the volume of construction. The increases occurred in two waves. The first was the return of veterans formerly in construction occupations and the entry of those who learned a construction trade in the armed forces. Most of these men were absorbed into the construction labour force between 1945 and 1946, with the result that the number of employees in this industry (including independent tradesmen) rose by 56,000 in one year (see Summary Table 28). In the second full post-war year this source was reduced to a trickle, but veterans who

(1) Incidentally, if basic steel capacity were increased it would eliminate largely the subsidies now being paid to cover the costs incurred to match basic steel production and fabricating capacities in the three Canadian steel centres.

were undergoing construction training, war workers formerly working in construction jobs, and an increase of immigrant construction workers, were sufficient to raise the labour force in 1947 by 24,000 over the 1946 level. The second wave came in 1948, when 41,000 men joined the construction labour force. They came from greater numbers of young apprentices who had completed their training, a trebling of immigrant construction workers, and for the most part a shift of manual labourers from lower-paying industries to the construction industry, where wages were considered good and take-home pay was increased by overtime and special holiday rates. For 1948 as a whole the available labour force exceeded the 300,000 mark. Seasonal variations affected the labour force to the extent of about 100,000 workers. Many of these men would be working in industries other than construction in the off-season but returning to construction during the Spring to Autumn seasons.

SUMMARY TABLE 28. - EMPLOYMENT AND UNEMPLOYMENT IN THE CONSTRUCTION INDUSTRY, CANADA, 1945-1948.

Year	Employed	Unemployed	Total Labour Force
1945	171,000	13,000	184,000
1946	227,000	13,000	240,000
1947	252,000	12,000	264,000
1948	291,000	14,000	305,000

Source: See Table III in Appendix A.

Not only did the construction labour force increase, but the declining trend of hours worked per week, particularly noticeable when the war was drawing to a close and in the first post-war year, was reversed by 1947 and continued in an upward direction in 1948 (see Summary Table 29).

SUMMARY TABLE 29. - AVERAGE NUMBER OF HOURS WORKED PER WEEK IN THE BUILDING INDUSTRY, CANADA, JULY, 1945 - JULY, 1948.

Year	Average Number of Hours Worked Per Week
July, 1945	40.9
July, 1946	38.4
July, 1947	38.8
July, 1948	40.0

Source: Monthly issues of Statistics of Average Hours Worked and Average Hourly Earnings, Dominion Bureau of Statistics, Ottawa.

Construction Labour - Demand

A high proportion of this larger labour force was kept fully employed throughout the post-war period in spite of the usual seasonal nature of the industry. Average unemployment during the period 1945 to 1948 varied between 12,000 and 14,000 persons, or 5 to 7 per cent of the total construction labour force. This was considered a very low ratio in an industry where movement from one job to another and inclement weather were a part of the occupational hazard inherent in that type of work (see Summary Table 28).

The growth of the construction labour force did not meet all the demands for more workers. Shortages persisted in such skilled trades as bricklayers and plasterers. When the construction labour force reached its peak in summer of 1948 there were still four jobs for every bricklayer looking for work and six jobs for every plasterer. Local surpluses, however, appeared in some trades. There were, for example, two painters for every job, and almost three unskilled construction workers for every two jobs (see Summary Table 30). But these labour surpluses in some localities did not meet the demand in other localities. Movements among construction workers were limited and many men with families were not willing to move.

SUMMARY TABLE 30 - NUMBER OF UNFILLED VACANCIES PER UNPLACED APPLICANT IN CONSTRUCTION TRADES BY TRADE, CANADA, JULY, 1945 - JULY, 1948.

Trade	July,1945	July, 1946	July, 1947	July,1948
Bricklayers	12.0	6.2	11.6	4.2
Carpenters	4.1	1.5	2.3	1.1
Painters	3.0	.7	.9	.5
Plasterers	3.4	5.0	12.3	6.3
Plumbers and Steam fitters	2.2	.3	1.0	.7
Other Skilled and Semi-skilled Construction Workers	5.2	1.2	2.0	.8
Total Skilled and Semi-skilled Construction Workers	3.9	1.2	2.1	1.1
Unskilled Construction Workers	4.4	1.4	2.0	.8
Total Construction Workers	4.1	1.3	2.1	.9

Source: See Table IV in Appendix A.

Speaking in overall terms, the construction labour force increased rapidly to cope with the expanding volume of work. It employed two-thirds more workers by 1948 as compared with 1945. But the increase in the supply of tradesmen was uneven, with the result that during 1948 shortages of skilled workers in some trades and certain areas persisted, with surpluses in other trades and different localities.(1)

Building Materials - Supply

Most of Canada's building materials (2) are produced from Canadian raw materials and are manufactured in Canadian plants. The industry is closely geared to the domestic market and is not, with a few exceptions, either an important importer or exporter. The only major building material for which Canada depends almost entirely on imports is window glass, which is brought in mainly from the United Kingdom, United States, Belgium and Czechoslovakia. Imports of other items are insignificant or non-existent (see Summary Table 31). In this respect the situation of the industry differs from that of domestic basic material producers and users (see p. 63) The volume of construction undertaken in the post-war period was therefore largely dependent on how rapidly the domestic building material industries could expand to meet the avalanche of orders waiting to be filled.

(1) In some measure the rapid increase of the labour force was made possible by the entry of a large number of semi-skilled and unskilled men into the field. The effect of this on productivity in the industry is discussed in Section III.

(2) Building materials may be defined as goods entering directly into building construction or into the repair and maintenance of buildings and other public and private structures.

SUMMARY TABLE 31 - IMPORTS AS PROPORTION OF DOMESTIC PRODUCTION OF SELECTED BUILDING MATERIALS, CANADA, 1948(1)

Item	Per cent
Cement	8
Building Brick	2
Rock Wool Batts	1
Gypsum Plaster	5
Window Glass(2)	100
Paints, Varnishes and Lacquers(3)	21
Wire Nails and Spikes	11

Source: See Table V in Appendix A.
(1) Estimates based on figures for the first eight months of the year.
(2) See footnote 7 to Table V in Appendix A
(3) Deflated data.

When the war ended the building materials industries were in a much stronger position than at the start of the war. Many of the industries had expanded to produce building materials for war plants and military installations. As these orders declined after the peak of the industrial war effort of 1943, favourable military events and decreasing war production orders in 1944 made it possible for these industries to plan and prepare for peacetime production for about a year to a year and a half before V-J Day. As a result, the building materials industries found themselves in a position - where not hampered by serious shortages of basic materials - to turn out a considerably larger volume of building products in 1945 than in 1939 (See Summary Table 32). The increases ranged from 5 per cent for nails (where the steel shortage held back any significant increase in production) to 190 per cent for asphalt shingles, and over 200 per cent for insulating materials (rock wool products). Of the 20 building material items for which comparable data are available, only one commodity showed a decline, 4 per cent for gypsum plaster.

SUMMARY TABLE 32. CHANGES IN THE PRODUCTION OF SELECTED BUILDING MATERIALS, CANADA, 1939 - 1948

(Per cent)

Item	1939 to 1945	1945 to 1948(1)	1939 to 1948(1)
Cement	+ 36.7	+ 69.5	+ 131.6
Building Brick	+ 18.2	+ 64.4	+ 94.3
Structural Tile	+ 6.2	+ 94.5	+ 106.5
Rock Wool Batts	+ 278.5	+ 161.9	+ 891.3
Bulk Rock Wool	+ 200.0	+ 116.7	+ 550.0
Gypsum Wallboard	+ 71.4	+ 84.6	+ 216.4
Gypsum Plaster	- 4.0	+ 152.4	+ 142.4
Asphalt Shingles	+ 189.9	+ 39.7	+ 304.9
Smooth and Mineral-Surfaced Rolls	+ 84.6	+ 41.7	+ 161.5
Cast Iron Soil Pipe and Fittings	+ 12.1	+ 89.2	+ 112.1
Cast Iron Water Pipe and Fittings	+ 38.7	+ 52.5	+ 111.5
Steel Pipe and Fittings	+ 53.9	- 10.3	+ 38.1
Furnaces - Warm Air and Heating Boilers	+ 23.0	+ 53.7	+ 89.4
Cast Iron Radiators	+ 44.1	+ 11.4	+ 60.5
Electric Water Heaters	+ 148.7	+ 30.2	+ 223.9
Hot Water Storage Tanks (Range Boilers)	+ 33.1	+ 37.0	+ 82.2
Paints, Varnishes and Lacquers(2)	+ 48.4	- 4.9	+ 41.1
Wire Nails and Spikes	+ 5.3	+ 11.4	+ 17.3
Builders' Hardware(2)	+ 64.0(3)	+ 26.8(3)	+ 108.0(3)
Rigid Insulating Board	+ 67.9	+ 37.6	+ 131.2
Average	+ 71.6	+ 58.0	+ 180.7

Source: See Tables V and VI in Appendix A.
(1) Estimated.
(2) Deflated series.
(3) Data used for 1945 and 1948 are factory sales.

Large as the increases of output were in terms of pre-war measurements, they appeared wholly inadequate to meet the demand for building materials facing the industry in the post-war period. To cope with this the industry expanded both its plants and its labour force. Between 1945 and 1947 the industry more than doubled its annual capital expenditures, and by 1948 was spending at the rate of three times the outlay made in 1945 (see Summary Table 33). Even if account be taken of cost increases of capital goods, the volume of investment expenditures made by the industry would still be more than double. The labour force of the building materials industry increased steadily. From 84,000 employed in 1946 the working force rose to 98,000 in 1947, an increase of 16 per cent. In 1948 employment in these industries is well over the 100,000 mark, a further increase of about 10 per cent (see Summary Table 34).

SUMMARY TABLE 33 - INVESTMENT IN DURABLE PHYSICAL ASSETS BY THE BUILDING MATERIALS INDUSTRY, CANADA, 1945-1948

Year	Millions of Dollars
1945	11
1946	16
1947	28
1948	32

Source: Estimate prepared by Economic Research Branch, Department of Reconstruction and Supply.

SUMMARY TABLE 34 - INCREASES OF SELECTED BUILDING MATERIAL SHIPMENTS BY RAIL AND EMPLOYMENT IN THE BUILDING MATERIAL INDUSTRIES, CANADA 1945 - 1948.

(Per cent)

Item	1945 to 1946	1946 to 1947	1947 to 1948
Shipments of selected Building Materials (1) by Rail	14.5	16.5	9.0(2)
Employment in the Building Material Industries	- (3)	16.1	10.3(2)

Source: Data obtained from Housing in Canada July, 1948, Central Mortgage and Housing Corporation, Ottawa.
(1) This group covers, gravel, sand and stone, lime and plaster, brick, cement, sewer pipe and drain tile and lumber.
(2) Estimated on the basis of the first six months, 1948.
(3) Not available.

This large expansion began to pay off in 1947, and by 1948, when peak output had been reached, surpluses appeared for the first time in a decade in a few lines (see p. 77) This increase in production occurred in all 20 building materials for which comparable data are available for the last ten years. This includes such commodities as were affected by the continuing steel shortage. The accomplishments of the building materials manufacturers whose principal raw material is steel are particularly notable in the light of the many handicaps they faced after the war. For example, the production of such scarce items as electric water heaters was up 124 per cent in 1948 as compared with 1939; cast iron soil pipe and fittings and cast iron water pipes and fittings were each up 112 per cent; warm air furnaces and heating boilers were up 89 per cent, hot water storage tanks were up 82 per cent; cast iron radiators production had increased 61 per cent; steel pipe and fittings had increased 38 per cent; and wire nails and spikes about 17 per cent (see Summary Table 32). These achievements were made possible in part by the

ingenuity of the industry in obtaining the necessary basic materials from domestic and foreign producers, partly by a key materials allocation system operated by the Government since the end of the war.

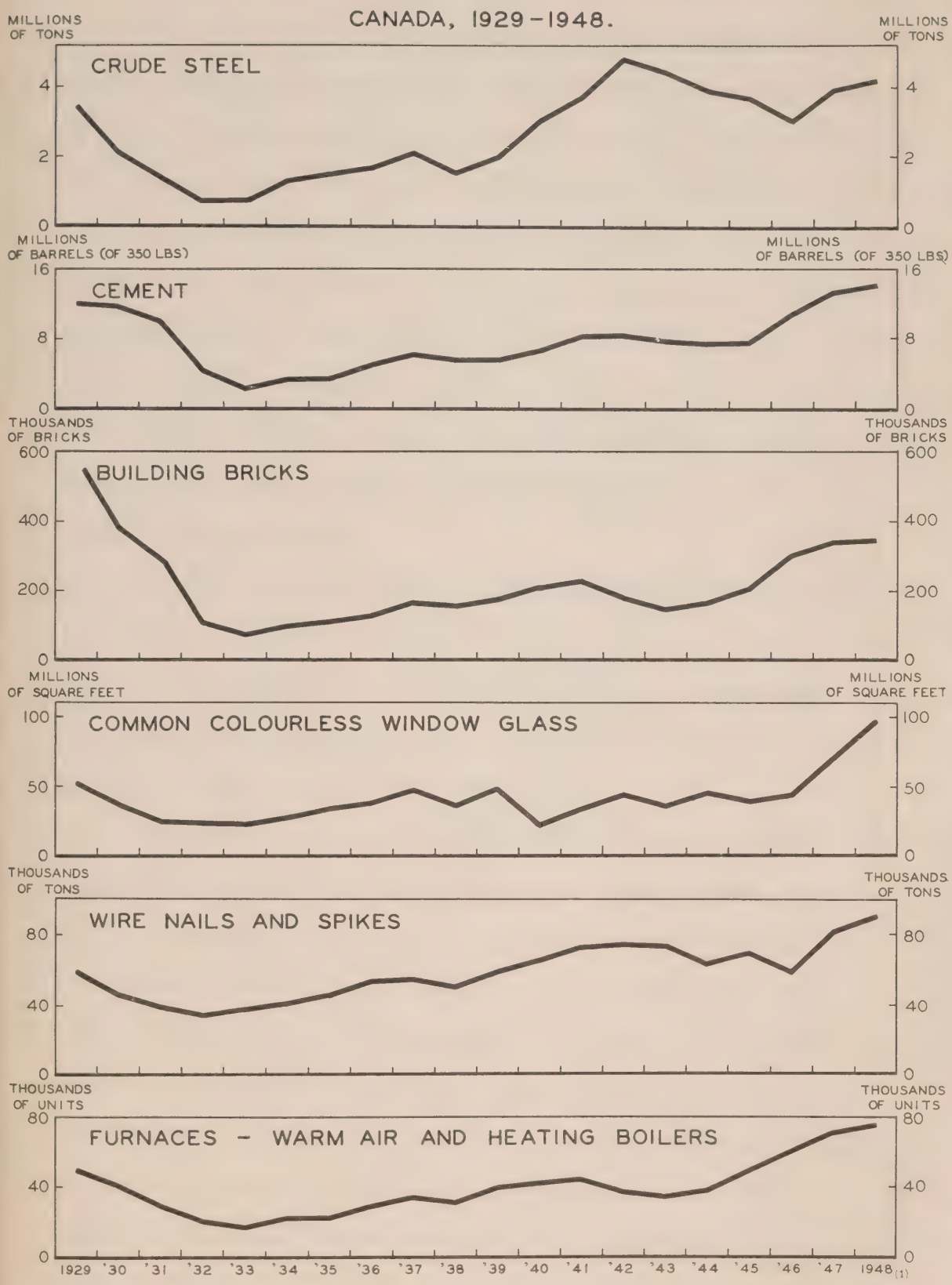
While imports of building materials usually added little to the supply - except for window glass - the proximity of the great industrial potential of the United States made it possible for Canadian consumers of building materials to obtain an increased supply of selected items at times when domestic shortages were particularly pressing. This opportunity of getting a few scarce items from a neighbour meant more than the actual value of the total imports of key building materials. It meant that projects which had been held up, say because of shortages of nails or gypsum plaster, could be completed much sooner than would have been possible had the building material user waited his turn for domestic supplies. This increased buying abroad of building materials which were in short supply in Canada was of particular significance in 1946 and 1947, and helped overcome some of the construction industry's worst bottlenecks. By 1948, as domestic supplies increased substantially and the shortage of U.S. dollars made the curtailment of imports from abroad necessary, quantities of building materials brought in fell considerably. For example, imports of rigid insulating board dropped from 40 million square feet to 10 million, rock wool batts from 5.8 million square feet to 1.2 million, gypsum plaster from 10,000 tons to 8,000 tons, building brick from 9 million to 7 million (see Table V in Appendix A). However, imports of some items, such as nails, in continuing short supply, increased. Nail imports, which had been negligible in 1945, were up to 4,000 tons in 1947, and 8,500 tons in 1948. But even in this field a tightening steel situation in the United States, because of the need for diverting steel to the preparedness program, would not be without effect on future exports to Canada of commodities with a steel content.

There is no overall measurement available of the total increase in <u>volume</u> of building materials, but evidence additional to that presented above is provided by the statistics of rail shipments for a selected group of materials, such as gravel, sand and stone, lime and plaster, brick, cement, sewer pipe and drain tile, and lumber. Shipments of this group of materials amounted to 11 million tons in 1945 and appear to have increased to over 15 million tons this year. As Summary Table 34 shows, the largest increases occurred between 1945 and 1946 (14.5 per cent) and between 1946 and 1947 (16.5 per cent), and a smaller increase between 1947 and 1948 (9 per cent).

- FIGURE IV -

AVAILABLE DOMESTIC SUPPLY OF SELECTED BASIC AND BUILDING MATERIALS,

CANADA, 1929-1948.



(1) PRELIMINARY

SOURCE: SEE PP. 230 AND 235 - 237

Building Materials - Demand

Demand for building materials in the post-war period consistently exceeded supply. It was not until early in 1948 and in a few lines that supply caught up with demand. In some cases this resulted in a levelling off or reduction of production. The situation by mid-1948 has been summed up in this way: "Building material production during the first half of 1948 showed substantial increases over output during the corresponding period of 1947, with output gains varying from 3 per cent to over 100 per cent. At the same time there were signs that the supply of some items, particularly in the roofing and insulation materials fields, was meeting all effective demand. All in all, however, with the accelerated pace of house-building and other types of construction activity, the demand of the building industry for materials continued to press on available supplies and the supply of most items still represents an important limiting factor on the size of the housing program."(1) This situation was equally applicable to other types of construction than housing.

Comparing the first half of 1947 with the first half of 1948, it was observed that "output of asphalt rolls and shingles was down 31 per cent and 4 per cent respectively, but these materials are in good supply and production is keeping pace with demand. The same is true of rock wool batts, the production of which declined 21 per cent."(2)

The unevenness with which demand caught up with supply is reflected in inventory changes that have occurred. Broadly speaking, inventories of building materials have remained below the proportion of production or sales that was customary in the different industries before the war and that are considered by the trade as the minimum for efficient operations. The only exceptions are the few items where supply caught up with demand.

In the last four years the industry has tried to build up its inventories to a position where it could serve its customers with efficiency. But in a number of instances, firms which achieved an improvement in their inventory position had to meet new waves of orders and their stocks were reduced again.

Stocks of building materials at July, 1948 varied from one to about six weeks' supplies, at the mid-year rate of sales. A worsening of the situation in 1948 as compared with 1947 has been noted for cement, electrical,

(1) Housing in Canada, July, 1948, op. cit., p. 15.
(2) Housing in Canada, July, 1948, op. cit., p. 17.

equipment and electric hot water tank heaters. An improvement, slight to moderate, occurred in inventories of cast iron soil pipe and fittings, wire nails and spikes, bath tubs, gypsum products and insulating materials. In some fields the situation in 1948 was worse than in 1946, for example, building bricks, flue linings and sinks (see Summary Table 35).

SUMMARY TABLE 35. - RATIOS OF SALES DURING THE MONTH TO STOCKS AT THE END OF THE MONTH, SELECTED BUILDING MATERIALS, CANADA, JULY, 1946 - JULY, 1948.

Item	July, 1946 Ratio to 1	July, 1947 Ratio to 1	July, 1948 Ratio to 1
Cement	2.0	3.3	2.0
Building Brick	1.7	1.3	1.4
Flue Linings	9.2	4.1	7.9
Cast Iron Soil Pipe and Fittings	1.7	1.6	2.1
Steel Pipe and Fittings	.9	1.0	.8
Wire Nails and Spikes	1.2(1)	3.9	5.9
Bath Tubs	3.3	2.4	4.2
Sinks	3.0	.8	1.6
Gypsum Wallboard	11.3	10.1	13.0
Gypsum Lath	6.2	5.6	28.8
Gypsum Plaster	19.6	17.5	20.7
Rock Wool Batts	11.8	11.0	12.0
Single Pole Switches	9.0	11.5	11.0
Outlet Boxes	2.1	19.6	2.0
Non-Metallic Sheathed Cable	14.0	12.5	.8
Domestic Heating Boilers	2.3	- (2)	- (2)
Hot Water Storage Tanks	35.7	- (2)	29.3
Electric Hot Water Tanks	13.5	3.7	.7

Source: See Table VII Appendix A.
(1) As at September 1.
(2) Stocks negligible.

The shortages of building materials that exist today can be arranged in order of their importance as seen by the purchaser. The listing in Summary Table 36 is based on the number of requests for priority approvals for building materials for housing construction made to the Department of Reconstruction and Supply during the month of October. These data are indicative - except for items specifically used in housing construction - of the overall shortages currently faced by the builders engaged in industrial construction.

SUMMARY TABLE 36. - LISTING OF BUILDING MATERIALS WITH DEMAND EXCEEDING SUPPLY IN ORDER OF SHORTAGE, CANADA, OCTOBER 1948

Order of Shortage	Type of Building Material
1	Plumbing Equipment and Fixtures
2	Range boilers
3	Galvanized and Other Pipe
4	Soil Pipe
5	Cement
6	Nails
7	Wallboard and Lath
8	Furnaces
9	Flooring
10	Eavestrough and Downspout
11	Flue Lining and Drainage Tile
12	Electrical Equipment, Wiring and Fixtures
13	Doors and Windows

Source: See Table VIIIin Appendix A.

Construction Management

The return of many men with construction management experience from military service and war production considerably strengthened the ability of the construction industry to cope with the increased demand for its output. But serious problems of management still remained. There were, for example, insufficient engineers or experienced foremen available for organizing construction jobs at the levels of managerial efficiency prevailing before the war (see p. 110). The greatest weakness that developed in the managerial field was the watering down of experienced management in the industry. This was the result of the entry of many new entrepreneurs who were inexperienced and lacked the managerial qualities which make for efficiency. As indicated later in connection with the discussion of construction costs (see Section III), the number of construction companies increased by about one-third between 1944 and 1946, and has increased further since. Many of the newcomers are not considered to be contractors by the construction industry but

referred to as speculative builders, who combine the roles of owner and builder. Their main purpose in entering the building field was to get their share of the profits to be made from the building boom under way. In most instances the speculative builder would build houses only to sell them to the highest bidder, and thereby in the prevailing tight market make a considerable return. These profits, according to the views held by the construction industry, reflected not only the usual profits to be made by contractors but also the additional rewards for the risks of speculative building. In fact, however, there was little risk involved in selling houses during the years 1946 to 1948, when the shortage was particularly great.

In spite of the lower efficiency of some of the newcomers, the demand for construction projects in the post-war period loomed so large - at least temporarily - that there has been sufficient room to absorb almost all of those setting themselves up in the construction field. That many of these attempts would end in bankruptcy for the inexperienced seemed to prove little of a deterrent.

Impact of Demand Upon Supply - Construction

Although the working force has increased by two-thirds since 1945, building material production between one half and three-quarters, and construction companies by more than one-third, demand for the construction resources still exceeds supply. As a result, the resources of the industry are taxed to the full and most firms are working at or near capacity. Reputable firms are finding it difficult to take on new projects until some of the work under way has been completed.

A survey undertaken in mid-1948 throws light on the degree of capacity at which the construction industry is working. Three groups of construction companies were distinguished: (a) those working at capacity, that is, builders refusing work or unwilling to take on new work except in special cases; (b) those working near capacity, that is, builders able to take on small amounts of new work but not actively looking for new work, and (c) those working below capacity, that is, willing to take on and looking actively for new work.

Of 22 large construction firms canvassed (in total doing more than

$100 million business in 1948) those doing 51 per cent of the total were working at full capacity, those doing 43 per cent were near capacity and 6 per cent were below capacity. These companies had work on hand the completion of which would take an average of from three months for those firms working below capacity to fifteen months for those working at full capacity (see Summary Table 37). While the firms canvassed cover only a group of large contractors and builders, whose experience is therefore not necessarily representative of the position of the many smaller enterprises in the field, it is noteworthy that on the average the large companies had about one year's work on hand. Many contractors admitted that business was better than it had been for many years and that in a number of instances it exceeded the peak level of activity of the late 'twenties.

SUMMARY TABLE 37. - CONSTRUCTION COMPANIES WORKING AT, NEAR AND BELOW CAPACITY, CANADA, AS AT JULY 31, 1948

Capacity	Number of Companies	Value of Work Performed 1947 $ million	Average Period for Which Work on Hand(1) months
Full Capacity	9	48	15
Near Capacity	10	40	9
Below Capacity	3	6	3
Total	22	94	12(2)

Source: Special compilation by Economic Research Branch, Department of Reconstruction and Supply, on the basis of data supplied by courtesy of the Canadian Construction Association, Ottawa.

(1) On the basis of volume of work on hand in 1948 prices.
(2) Weighted by volume of work on hand.

In spite of the tightness of the situation that appears to exist today in the construction industry, the industry has overcome many of the bottlenecks of the earlier post-war period, and improved its organization and productivity, which were at their lowest ebb in 1946. To illustrate: the building industry succeeded in reducing the average time required to complete a house from 11 months in 1946 to an average of about 7 months in 1948 (see Summary Table 38). Although similar improvements occurred in other fields

[illegible]

[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

[illegible]

[illegible]

of construction, the industry is still working significantly below the level of efficiency achieved before the war, which even at that time was below that attained by most other industries. The effect of this on construction costs and its general inflationary implications are discussed in Section III.

SUMMARY TABLE 38. - AVERAGE NUMBER OF MONTHS UNDER CONSTRUCTION OF HOUSING COMPLETIONS, CANADA, 1946-1948

Year and Month	Number of Months
1946	11
1947	8
1948	
January	7.3
February	7.1
March	7.5
April	7.7
May	7.2
June	6.8
July	6.1
August	6.2
September	5.4(1)

Source: Housing in Canada, October, 1948, Central Mortgage and Housing Corporation, Ottawa.

(1) Preliminary.

Supply of and Demand for Machinery and Equipment

Demand for Machinery and Equipment

Over one quarter (27 per cent) of capital expenditures on machinery and equipment made currently in Canada are direct purchases made abroad(1) (see Section III). The demand for foreign produced machinery and equipment varies greatly, depending on the type of investment project. A study of machinery and equipment purchases by 23 groups of manufacturing industries showed that 13 groups depend on foreign manufactured machinery and equipment to the extent of 25 to 50 per cent of their total outlay. In only six industrial groups was the proportion less than 25 per cent. In the remaining four groups the proportion exceeded 50 per cent. The development of Canadian industries which produce machinery and equipment is reflected by the large proportion of domestically manufactured items used by some of Canada's major industries. For example, in the pulp and paper industry, where the

(1) This proportion refers to imports of completed machinery and equipment. Additional foreign purchases include materials, supplies, parts and components going into Canadian produced machinery and equipment items.

volume of investment is currently very substantial, the proportion of imported items, comprising about 13 per cent, is lower than in most other industries. On the other hand the primary textiles industry depends greatly on imports of foreign produced machinery and equipment, mainly from the United States. In this industry the proportion of new investment expenditures for machinery and equipment going into foreign purchases is about 67 per cent.

The situation is similar in industries other than manufacturing. The mining industry, so important to Canada, is a large user of machinery and equipment. The heavy demands in this industry since the end of the war have been conducive to the growth of a domestic machinery and equipment industry catering to its needs. Machinery imports of the mining industry are only about 28 per cent of its total outlay. In the construction industry, on the other hand, an industry which requires a great deal of heavy machinery not manufactured in Canada, import requirements make up about 67 per cent of the industry's total purchases of equipment (see Table IX in Appendix A).

Imports of machinery and equipment made abroad amounted to some $369 million in 1947, the highest on record for any peacetime period. These imports were two and one-half times the value or almost twice the volume of 1929, and five times the value or two and one-half times the volume of 1939 (see Summary Table 39). From 1945 to 1947 imports increased at the rate of about 25 per cent per annum and came mainly from the United States. These data reflect Canada's heavy reliance on machinery and equipment purchases from the United States. In fact these imports eased greatly some of the shortages of equipment, for example, in the textile and chemical industries. In other cases imports provided highly specialized equipment, lack of which was holding up industrial development in Canada. These large purchases were in part financed by drawing on Canada's exchange reserves and contributed to the exchange problem faced towards the end of 1947 (see Section VI). The situation changed in 1948, because of a tightening of the supply situation in the United States (see p. 100) and the effect of the exchange conservation program on capital goods imports (see p. 62).

SUMMARY TABLE 39. - IMPORTS OF FOREIGN COMPLETED MACHINERY AND EQUIPMENT, CURRENT AND CONSTANT DOLLARS, CANADA, SELECTED YEARS, 1929-1948.

($ Million)

Year	Current Dollars	Constant Dollars
1929	132	128
1933	19	20
1939	77	77
1945	167	124
1946	235	166
1947	360	223
1948	370	208

Source: See Table X in Appendix A.

In the three years following the end of the war Canada's own machinery and equipment industry, readjusted to the growing peacetime demand of Canadian industry, turned out an increasing volume of machinery and equipment, with most of the increases achieved going into domestic investment (see Summary Table 40). It is this increase in domestic production which is making it possible to achieve in 1948 an investment program some 10 per cent greater in volume than in 1947, for imports of capital goods are moderately lower in volume terms, although slightly higher in value terms than the 1947 level. As a result of this shift towards greater dependence on domestic production, imports of foreign produced machinery and equipment, which had been 35 per cent of Canadian consumption in 1946 and 33 per cent in 1947, were down to about 27 per cent in 1948 (see Summary Table 48 in Section III).

SUMMARY TABLE 40. - PRODUCTION OF SELECTED MACHINERY AND EQUIPMENT INDUSTRIES(1), CURRENT AND CONSTANT DOLLARS, CANADA, SELECTED YEARS, 1929-1948.

Year	Current Dollars	Constant Dollars
1929	417.1	382.6
1933	119.4	120.3
1939	274.1	267.7
1945	859.5	645.7
1946	749.7	567.5
1947	962.4	622.7
1948	1,150.0	678.0

Source: See Table XI in Appendix A.

(1) The principle of selection was to choose machinery and equipment industries concerned to a large extent in meeting domestic requirements for private capital expenditures. The industries covered include electrical appliances, machinery, railway rolling stock, sheet metal products, agricultural implements and other iron and steel products.

SUMMARY TABLE 41. - INDEX OF SHIPMENTS OF SELECTED IRON AND STEEL PRODUCTS BY RAIL, CANADA, SELECTED YEARS, 1929-1948.

Year	Index
1929	205.6
1933	30.0
1939	100.0
1945	287.7
1946	179.3
1947	230.1
1948	241.1

Source: See Table XII in Appendix A.

Supply of Machinery and Equipment

The achievements of the domestic machinery and equipment industries in the post-war period are notable, for they were accomplished in spite of a great many difficulties. Some of these were:

1. A large number of firms producing today machinery and equipment serving peacetime purposes had been turning out munitions and war equipment only a few years ago. Many of these firms had to reconvert their plants fully or in large part before peacetime production could be commenced. The adjustment process covered a variety of industries and commodities: one firm which had been producing guns turned to electrical appliances, another turned from fuses to cash registers and accounting machines, a third from shells to railway rolling stock, a fourth from cartridge cases to kitchen equipment, a fifth from parts for tanks to farm machinery, a sixth from aircraft parts, jigs and fixtures to shoe machinery, a seventh from primers for shells to pens and pencils, and so the list goes on. All this could not have been accomplished without a great deal of engineering skill and managerial enterprise, both of which had been greatly increased by wartime technical accomplishments and experience gained in organizing mass production.

2. Shortages of materials in raw, processed and fabricated stages, particularly items with steel content limited production. The iron and steel allocation priorities given to the machinery and equipment industries in the immediate post-war period and the ability to purchase specialized types of

equipment in the United States - at times at what was considered even by American firms as excessive prices - made the rapid readjustment process to peacetime production possible and assured a continuing expansion of output as long as demand continued strong at prevailing prices.

3. Shortages of labour, particularly skilled men and technical personnel, low productivity, high labour turn-over, unattractiveness of heavy work even at high pay, strained labour-management relations in the light of the rapidly rising cost of living, were serious handicaps that had to be overcome in the effort to meet the orders for new machinery and equipment which were pouring in. In spite of the fact that the labour force in the iron and steel industry at the end of the war was generally abundant - having shrunk by about 40,000 men from its high level at the end of the war of 321,000 (see Summary Table 42) - shortages of skilled labour still persist. Although in a number of iron and steel trades there were by mid-1947 more men looking for skilled jobs than there were openings, many of these men did not meet the minimum requirements set by management in its search for greater efficiency. In some fields, like sheet metal workers, there were still three jobs for every two men looking for work (see Summary Table 43).

SUMMARY TABLE 42. - EMPLOYMENT IN THE IRON AND STEEL INDUSTRIES, CANADA, SELECTED YEARS, 1929-1948.

Year	Number
1929	142,772
1933	73,348
1939	121,041
1945	321,719
1946	249,279
1947	260,635
1948(1)	280,000

Source: Annual issues of The Manufacturing Industries of Canada, and monthly issues of the Employment Situation, Dominion Bureau of Statistics.

(1) Preliminary estimate.

SUMMARY TABLE 43. - NUMBER OF UNFILLED VACANCIES PER UNPLACED APPLICANT IN THE IRON AND STEEL AND RELATED INDUSTRIES, BY TRADE OF WORKER, CANADA, JULY, 1946 - JULY, 1948.

Trade	July 1946	July 1947	July 1948
Blacksmiths, Forgemen, Heat and Mechanical Treaters	.30	.52	.31
Machinists, Tool Makers and Diesetters	.08	.21	.29
Sheet Metal Workers	.41	1.88	1.49
Welders and Framecutters	.10	.89	.29
Patternmakers and Other Machine Shop Workers	.15	.63	.41
Foundry Workers - Moulders and Core Workers	.82	1.40	.64
Total Other Metal Working Occupations	.30	.68	.36
Unskilled Labourers	-	2.51	.74
All Trades	.20	1.00	.47

Source: See Table XIII in Appendix A.

Perhaps more than statistics the following comments suggest the woes of machinery and equipment producers trying to get the necessary skilled labour: "Moulding is hard, dirty work and, while up to $15 a day can be earned, men are not eager to enter this occupation. Men start but soon drift off to other jobs. It costs the company $300 to train one moulder. Moulders are desperately needed and company is willing to train them, but few apply. Metal pattern makers are also needed but these are more scarce than moulders."(1)

Impact of Demand Upon Supply - Machinery and Equipment

Canada has traditionally depended on large imports of machinery and equipment from abroad. When demand for capital goods of all kinds became particularly pressing following the end of the war, Canadians found it impossible to obtain urgently needed machinery and equipment items from many of their pre-war suppliers, the United Kingdom, Germany, Sweden and Switzerland. Canada's proximity to the large industrial potential of the United States,

(1) The comments reflect the situation as of mid-1948. Information by courtesy of the Research and Statistics Branch, Department of Labour, Ottawa.

where the capital goods industries continued at high rates of output after the war, made it possible for many a Canadian business man to purchase a machine or piece of equipment he could not obtain either in Canada or from his pre-war suppliers outside the United States. These imports of machinery and equipment influence the domestic price level in two main ways. First, in so far as American prices are rising, these higher import prices become incorporated into the domestic price structure and affect the movement in the domestic price level. Secondly, this high level of imports diverted some of the inflationary pressure from domestic to foreign sources of supply. There have in fact been complaints from American firms about Canadians being able to buy certain types of machinery and equipment they themselves had been waiting for. Another complaint not infrequently heard was that Canadians were outbidding American firms for scarce items. However, these complaints should be seen in their proper perspective. Canadian purchases of machinery and equipment were about 2 per cent of what the United States was spending on machinery and equipment for their own use, and even a smaller proportion of all machinery and equipment produced in that country. While the overall impact of Canadian purchases on the American economy was hardly felt, except for the irritation of some American business men competing with Canadian purchasers, the increased flow of capital goods in the critical period of 1945 to 1947 meant a great deal of difference in Canada. For had imports remained at the 1945 level it is quite possible that the prices of many types of domestically produced machinery and equipment would have risen considerably faster than they did and would now be up as much as construction costs - which are about twice as high as in 1939 - instead of being 20 per cent lower (see Section III).

As far as domestic supply is concerned, the strong demand for a great variety of capital goods has kept most segments of the machinery and equipment industry working at as high levels as has been possible to accomplish in the light of labour and material shortages. This state of affairs continues today in such fields as agricultural machinery, commercial vehicles, electrical equipment, construction machinery, mining, logging, pulp and paper machinery and many other types of capital goods required by the continued expansion of Canada's secondary industries. But there also have appeared indications that some of the

machinery and equipment capacity of the country is not fully used. For example, in railway rolling stock and in shipbuilding[1] the existing facilities and available labour force could turn out a larger output but for the continuing shortages of steel plates and sheets.

Keeping these special cases in mind, the overall situation of the machinery and equipment industry is one of demand still exceeding supply. Delivery dates for many types of machinery and equipment have somewhat improved. A survey of 31 machinery and equipment delivery quotations shows at the end of 1948 as against the year previous an improvement for 14 items, an unchanged situation for 11 items, and a worsening for 6 items (see Summary Table 44). Most machinery and equipment firms appear to have sufficient orders on hand to keep them busy for at least another year. The main worries continue to be labour and material shortages and low productivity. Few firms have as yet complained about a falling off of demand. The following observations are indicative of the attitude of most machinery and equipment producers: "We have sufficient orders on our books at present to keep us in full production for 12 to 18 months. We do not like to anticipate conditions any further ahead than that, but we believe that barring a major depression in the United States we can look forward to many years of high activity." . . . "Providing material is made available we expect to have full employment for the next couple of years." . . . "Our heavy electrical equipment division is booked into 1952 (four years). Six months ago, it was 1951."[2]

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(1) Shipbuilders are insistent that there is no business in sight for the industry beyond next year. The post-war backlog of orders has almost dwindled away. Foreign orders have been choked off because of development of shipyards abroad. Shipbuilders Ask Ottawa Help Pep Up Industry, The Globe and Mail, Toronto, November 15, 1948, p. 8.

(2) Information by courtesy Research and Statistics Branch, Department of Labour, Ottawa.

SUMMARY TABLE 44. - ESTIMATED DELIVERY QUOTATIONS OF MACHINERY AND EQUIPMENT ITEMS GOING INTO THE DOMESTIC INVESTMENT PROGRAM(1), CANADA, DECEMBER 1, 1947 AND DECEMBER 1, 1948

(In number of Months)

Item	December 1, 1947	December 1, 1948	Comments on Supply-Demand Situation
Locomotives	12	12	Unchanged
Other Railway Rolling Stock	12	16 - 18	Some tightening
Heavy Industrial Equipment	24 - 30	24	Slightly improved
Smaller Installations and Equipment	0 - 6	0 - 6	Unchanged
Machine Tools	Rapid delivery	Immediate delivery	Improved
Mining Equipment	3 - 12	2 - 10	Slightly improved
Logging and Sawmill Equipment	3 - 12	3 - 12	Unchanged
Road Making Machinery	6 - 12	6 - 12	Unchanged
Ships and Equipment	18	12	Excess capacity available
Tractors -			
Small Bulldozer Type	3	1	Improved
Agricultural Types	8 - 10	8 - 10	Unchanged
Other Agricultural Machinery and Equipment	12 - 14	12 - 14	Unchanged
Automobiles -			
Passenger Cars - Popular Makes	12 - 14	14 - 18	Some tightening
Light Delivery Trucks	10 - 12	12 - 18	Some tightening
Heavy Trucks	2	2 - 3	Little changed
Buses and Special Heavy Motor Vehicles	12	18	Some tightening
Electric Motors -			
Small Commercial Types up to 1 H.P.	3	Usually in stock	Improved
Larger Industrial Types 1 to 75 H.P.	3	Some in stock	Improved
Large Installations over 75 H.P.	8 - 36	8 - 36	Unchanged
Distribution Transformers - under 200 KVA capacity -			
Standard Designs	9	Some in stock rest 1 - 4	Improved
Special Designs	12 - 18	6 - 9	Notably improved
Power Transformers - over 200 KVA and Including Heavy Standard Units	18 - 24	12 - 18	Slightly improved
Special Designs	24	24	Unchanged
Electrical Switching Gear -			
Lower Voltages	2 - 8	0 - 6	Improved
High Ratings and Special Devices	6 - 12	4 - 8	Slightly improved
Generators -			
Small, i.e. 300 watt	In stock	In stock	Unchanged
Intermediate Types Imported	In stock	In stock	Unchanged
Above 10,000 KW	24 - 36 or more	24 - 36	Slightly improved
Steam turbogenerators - geared, up to 1000 KW	8 - 18	8 - 12	Slightly improved
Motor Driven Generators - 300 watt sets	2 - 3	2 - 3	Unchanged
Motor Driven Generators - 150 to 800 KW sets	4 - 12	6 - 18	Some tightening

Source: Special compilation by Economic Research Branch, Department of Reconstruction and Supply.

(1) On the assumption of no change in allocation of steel.

The significant factor in the inflationary pressures in the capital goods sector is the high level of investment demand. This high level of demand has led to a sustained and continuous pressure on supplies, and this pressure is being reflected in increasing prices. A large increase in available supplies has come from two main sources: considerable increases in output by Canadian capital goods industries, and, in the earlier part of the post-war period, a rise in imports. Limits to the increase from these two sources have been set by extraneous factors, such as specific bottlenecks of labour or materials in the case of domestic production, and foreign exchange difficulties in the case of certain imports. However, but for the increase in available supplies, costs of capital goods could easily have been much higher than they are today, in the absence of an elaborate system of controls. Further price increases in the capital goods sector of the economy would have an important influence on the general level of prices.

III. COST OF INVESTMENT

Price Determination of Capital Goods

Why does it cost so much to build a plant today? Why are prices of machinery and equipment so high? Why has the volume of investment continued at such high levels in the post-war period in spite of current high prices? In the light of the substantial demand for investment, how is it that capital goods prices have not increased even more? These are the type of questions most frequently asked in a discussion of prices of investment goods in the post-war period and the effects of such prices on business decisions.

The factors affecting the level of prices of capital goods are quite similar to those determining prices in other markets. Briefly, there are many businessmen desiring to purchase new plants and other types of structures and installations, but there are just not enough men and materials available to build them. Orders for machinery and equipment are so plentiful and varied that there is not the capacity to meet all the demands at the same time. This high demand relative to supplies leads in an uncontrolled economy to higher prices for these goods. The classical remedy to this unbalance is that output of these goods will be stimulated, and that higher prices will discourage marginal investment until prices stabilize at a position where supply and demand are in balance again. The effect of higher prices on the amount demanded is different in the case of investment goods than in consumer goods markets. The factors influencing decisions to invest and decisions to consume require further discussion on this point.

Effect of Prices on Decisions to Invest and Consume

Decisions on making a capital goods purchase depend on what is anticipated for the future. When the businessman expects to get a high return in future years from making a specific investment expenditure, he will go ahead with the project. In considering the possible rate of return he considers expected future earnings, the cost of the asset, and the market rate of interest on borrowed funds. In a buoyant period such as the present business expectations are so favourable that a high volume of investment is taking place in spite of the high prices. In fact, a businessman may even be willing to pay a higher price for a machine which he can get delivered at short notice instead of a lower price for a machine with a delivery quotation of one year. This action is

frequently justified by good business reasoning. A machine delivered in the near future will be working for the entrepreneur during the year he would be waiting had he placed the order for the lower priced machine with one-year delivery quotation. In this time he would be making a profit which would in all likelihood more than make up for the difference in price. Thus, in days of scarcities, delivery dates may outweigh price consideration if the margin involved is not too substantial. Thinking in these terms, many a businessman considers high prices of capital goods no deterrent to expansion or improvement of his establishment so long as he is firmly convinced that the business outlook is good, that the investment will pay for itself and bring him a handsome profit.

How does the supplier of capital goods react to such a buyer's philosophy? The supplier discovers soon that the buyer is very anxious to get the capital equipment promptly and is willing to pay a premium for delivery. Unless the seller, for reason of his own, does not want to profit from this situation, he will demand a higher price than he would otherwise ask. In most cases he will get that higher price. The attitude of the seller of capital goods then becomes: "Let's charge what the market will bear." In doing so he has a ready-made excuse. He probably lost money in the depression, when sales of capital goods were at exceptionally low levels. The time to make up for these losses is when the going is good. In effect, he is trying to obtain a reasonable return for his investment, labour and vision over the period of a whole business cycle.

What has been said about the lesser significance of price as a determinant in purchasing capital equipment in good times applies also to times of low levels of economic activity. For the businessman will only purchase capital goods if he can expect that the returns to be received, discounted to the present by the prevailing interest rate, will be such as to warrant making the investment. Since capital goods are durable and have a long life expectancy, replacement of capital goods can be postponed for long periods. As a result businessmen will try to avoid making capital expenditures either for replacement or expansion purposes if the business outlook is uncertain and profit expectations are dim. In such a situation, even if prices of capital goods are low, the entrepreneur who does not want to expand at that time will not make an investment in the light of price considerations alone. The supplier of capital goods can do little to promote his sales simply by reducing prices.

The position of the person purchasing consumer goods is somewhat different from that of a businessman purchasing capital goods. A consumer buys a commodity or service because of the immediate (or near term) use which he has for it. Except with regard to the purchase of some consumer durables which may involve a large outlay on the part of the consumer at one time, he is not guided by what the future holds in store for him.(1) Decisions on consumer purchases are made in the light of the income available for spending, prices of the various consumer goods, and the personal consumer tastes and preferences. Prices of consumer goods are a fairly important factor in influencing spending in periods of both high and low levels of employment and income. Most consumers have limited means at their disposal.- less than 10 per cent of Canada's working population earns $5000 or more per year. Prices of commodities, particularly in times of rapidly rising prices as at present, are a major factor, if not frequently the determining factor, for the purchase, particularly if disposable income does not increase at the same rate as consumer goods prices. A consumer may not be willing to buy a certain commodity at prevailing prices. He may choose a substitute, or he may be willing to buy the commodity considered in the first instance at a lower price, if he can get it. The seller may pay little attention to this while the going is good. But when sales drop he will consider ways and means to meet the buyer's needs. This leaves the seller of consumer goods a greater opportunity of increasing sales by bringing his prices down to a level where his goods will be within reach of a larger number of consumers. "Bargain sales" of consumer goods become customary. This is not the case for custom built capital goods.

Relative Price Movements in Consumer and Investment Goods

Turning to how one would expect prices to move in the two sectors, it has been brought out earlier (Section II) that the volume of investment fluctuates much more widely than the volume of consumer expenditures. This important fact shows up in all long period estimates of gross national expenditure for a wide variety of countries. Much literature in the field of business cycle theory has been devoted to a discussion of the various reasons for this, but for the purposes on hand it may suffice to point out that this greater

(1) As stated previously, purchases of houses are treated the same way as capital expenditures by business and are included under investment in durable physical assets (see Section I).

fluctuation in volume of capital expenditures, combined with the previous discussion on the effect of prices on decisions to invest, make wide fluctuations in the prices of capital goods over the cycle possible. Relatively higher prices for capital goods in a boom would be necessary to draw labour and materials into this field, but the high prices alone would not be enough to limit a high level of investment. Correspondingly, in a period of low employment and incomes, the low volume of investment would force prices and wages in the sector down relatively further than in consumer goods industries, but this alone would not stimulate investment.

On the other hand there seem to be somewhat greater institutional rigidities in prices and wages in the capital goods sector than in the consumer goods sector. Prices of certain basic materials like iron and steel products and cement tend to move slowly over the business cycle and price changes do not occur as frequently as in other commodities. Wage rates in the construction industries move fairly slowly and certain of the skilled workers tend to resist wage cuts in a period of low activity. On the other hand, prices of certain consumer goods like food fluctuate much more widely over the business cycle and price changes occur more frequently. It is difficult to generalize on the relative importance of these institutional rigidities in the consumer and capital goods markets, but by and large and in the main it would seem that there is greater flexibility in consumer goods prices than in capital goods prices.

Before turning to the statistical evidence to see how these relative prices have moved, certain other differences in the markets for these two main types of goods should be noted.

The degree of standardization in type of goods differs for the two markets. A large proportion of capital goods is custom made. Manufacturing plants, utility installations, mining structures, office buildings, warehouses and cold storage facilities are rarely duplicated. Heavy types of machinery and equipment as used in the mining, newsprint, steel and many other industries are made according to specifications. On the other hand, a large number of consumer goods are standardized and allow the application of mass production techniques.

The purchaser of consumer goods has a larger choice of substitution between one commodity and another than the purchaser of capital goods. If a consumer cannot afford beef he may buy lamb, or if he has not got the means for a $5.00 shirt a $3.00 shirt will have to do. A textile manufacturer who needs

a modern power loom cannot substitute for it an old fashioned power loom or even a hand loom if he finds the modern power loom expensive. Either of the two second choices would defeat the purpose for making the investment - to increase the capacity of his plant and the efficiency of his production and to turn out more goods to get his share of the high demand for consumer goods prevailing.

The number of manufacturers of consumer goods tends to be larger than the number of suppliers of producer goods. Because large funds are required for capital goods production, manufacturers of heavy machinery and equipment, and firms engaged in the primary and intermediate production stages preceding the completed product are relatively few in number. In cases of specialized equipment there may be only one, or just a handful, of suppliers in Canada. Consumer goods, on the other hand, are usually small items and many firms with moderate means can try their hands in this field. Of course, there are exceptions to this, as in the manufacture of some of the consumer durables, but competitions in these fields has been steadily increasing.

The following quantitative analysis should be considered against the background of these general observations on the market for investment goods, and the effect of prices in this sector on decisions to invest,

Components of Investment Costs

When price of capital goods in times of pressing demand like the present is not always the major determinant in making a sale, it is understandable that the costs of creating the capital goods will creep up at a faster rate than they otherwise would. Managerial effort is not at its best when the seller knows he can recoup any loss in efficiency from the buyer. If the producer of capital goods through a shrewd appraisal of the market succeeds in increasing his profits considerably, industrial labour, which is widely organized, particularly in the capital goods industries and associated fields, will be pressing for higher wages. Since the entrepreneur has good reason to expect that he will be able to pass on any additional labour costs to the purchaser of capital goods, he will show less resistance to wage demands than he would otherwise do. As a result there will be fewer strikes and less interruption of work (see Summary Table 45). The seller will fear pricing himself out of the market less than the well-informed producer of consumer goods.

SUMMARY TABLE 45.- MAN-WORKING DAYS LOST THROUGH STRIKES PER THOUSAND PERSONS EMPLOYED, CONSTRUCTION INDUSTRY AND ALL NON-AGRICULTURAL INDUSTRIES, CANADA, SELECTED YEARS, 1929-1948.

Year	Construction Industry	All Non-Agricultural Industries
1929	229	59
1933	28	149
1939	7	88
1945	17	453
1946	29	1,318
1947	175	655
1948	149	194

Source: See Table XIV in Appendix A.

Analysis of what makes overall costs of capital goods go up or down is therefore best conducted in terms of the major components which contribute to total investment.

Construction - Machinery and Equipment

Investment in durable physical assets is made up of two large components: outlay for new construction (including major improvements and alterations) and purchase of machinery and equipment. In 1947 and 1948 new construction made up 57 per cent of total investment in durable physical assets, and machinery and equipment 43 per cent. The ratios for 1929 and 1939 are about the same.

The situation however was different in the middle 'thirties, when private investment activity was at a particularly low level, and in 1945 and 1946, the immediate period of post-war readjustment. The ratio of construction to total was 67 per cent in 1933. This is mainly accounted for by a change in the composition of the investment program, with investment by business falling at a more rapid rate than investment by government. Most of the investment projects by government are construction projects, with comparatively little purchases of machinery and equipment. As a result, construction comprised a larger portion of total investment expenditures in 1933 than in either the earlier or later periods. In effect, this means that the impact of the declines in demand hit machinery and equipment industries even more than the construction industry.

During 1945 and 1946 construction expenditures made up between 61 and 63 per cent of the total (see Summary Table 46). This was a period of rapid industrial expansion, reconversion, modernization and expansion of plants. The larger proportion of investment expenditures going into construction suggests two different sets of conditions prevailing at that time: (a) a number of plants had to be built first before machinery and equipment could be purchased; and (b) the construction industry found it easier to expand to cope with the rapidly increasing demand than the machinery and equipment industries, which needed more extensive installations and adaptation of their plants.

SUMMARY TABLE 46. - NEW CONSTRUCTION EXPENDITURES AS A PROPORTION OF TOTAL INVESTMENT IN DURABLE PHYSICAL ASSETS, CANADA, SELECTED YEARS, 1929-1948

Year	Per Cent
1929	58
1933	67
1939	59
1945	61
1946	63
1947	57
1948	57

Source: Estimated by the Economic Research Branch, Department of Reconstruction and Supply.

Construction - Materials, Labour, Overhead and Profits

Construction costs by themselves are a composite item, falling into several major components, which in this study are separated into three groups: (1) construction and building materials costs, which include the purchase of materials, transportation of materials to the site, and their storage; (2) on-site labour costs, which include salary payments to the supervisory staff, wage payments to the on-site labour force, hire of machine operators, and social security payments for the on-site labour force (Unemployment Insurance and Workmen's Compensation); and (3) overhead and profits, which include job overhead (e.g. depreciation on owned machinery, fuel and lubricants, plant repairs, and perishable tools), office overhead (e.g. salaries of engineers and draftsmen, rentals and telephone), and remuneration and profits of builder or contractor.

For an adequate analytical appraisal, it would be desirable to separate overhead costs from profits, but statistical evidence on a national scale on profits alone is so scanty as to make a separate treatment of this item in the present state of knowledge a difficult undertaking.

Depending on the type of the construction project, the ratios will vary greatly. Evidence available for twenty seven different kinds of construction projects assembled in Table XV (Appendix A) indicates the following ranges: materials, 38 - 60 per cent, labour, 34 - 45 per cent, overhead profits, 5 - 22 per cent.

A survey of the operating records of twenty large construction companies yielded the ratios of overhead and profits to gross sales, as shown in Summary Table 47).

SUMMARY TABLE 47. - OVERHEAD AND PROFITS AS A PROPORTION OF GROSS SALES OF CONSTRUCTION COMPANIES, CANADA, SELECTED YEARS, 1929-1946

Year	Per Cent
1929	10.2
1933	8.2
1939	10.6
1945	10.7
1946	9.1

Source: Compilation based on the result of a sample survey of operating records of construction companies by courtesy of the Department of National Revenue.

Since the sample is based on large corporations, it is likely that the ratios shown would be somewhat low for Canada as a whole. Large companies would have a greater volume of work on which to charge their overhead than smaller businesses and would also include an amount of sub-contracting work in their operating expenses which could in turn be subdivided into labour, materials and overhead and profits. The latter should be added to the ratios in Summary Table 47 in order to obtain total operating profits and overhead for construction work performed. Data published in Taxation Statistics 1948 yield a ratio of 12.7 per cent for non-corporate construction business in 1946. This ratio is based on net profits plus proprietor's salary only. The ratio for complete operating profit and overhead to gross sales would therefore be somewhat higher.

Allowing for the above mentioned factors the following ratios are believed to approximate the national average in 1946: materials, 50 per cent, labour, 37 per cent, and overhead and profits, 13 per cent. The same ratios are used in analysing 1948 construction work, since no information to the contrary appears evident.

A case could be made for suggesting that the overhead and profit ratio in 1948 is likely to be higher than the one shown above. However, it should be noted that this ratio excludes speculative profits by land developers and house builders, where considerably higher profits occur, not all of which could be charged as profits of the construction industry. There are, also, some offsetting factors which would suggest that the profit and overhead ratio has been levelling off in the construction industry in the course of the last year. One reason is that overhead costs do not rise proportionately to sales. It is therefore possible for profits to be relatively greater in 1948 than in 1946, with the overhead and profit ratio remaining the same. Another reason is that some contractors have shown a willingness in 1948 to bid on a firm contract basis. This would indicate that they are counting on a levelling off of construction costs. Until recently it has been well nigh impossible to obtain firm bids from contractors.

Machinery and Equipment - Domestic and Foreign Produced

In 1948 expenditures for fully manufactured machinery and equipment imported from abroad, valued at the Canadian border, are estimated to involve 27 per cent of total expenditures on machinery and equipment in this year (see Summary Table 48). This ratio is notably lower than the corresponding ratios for the years 1945 to 1947. The achievement in 1948 is mainly due to deliberate Government policy in restricting imports of investment items to projects and undertakings vital to the efficient operation of the Canadian economy (see Section VI), although it may be partly due to a tightening supply situation in the United States. While the ratio of foreign imports to total machinery and equipment investment thus has been declining it must be remembered that the overall Canadian investment program has been rising rapidly. In both value and volume terms Canada has been importing more machinery and equipment during the last two years than during the preceding two years (see Table X Appendix A). First signs of a possible improvement in the importation of capital goods from countries outside the U.S., mainly the United Kingdom, have appeared in 1948,

but actual imports so far received have not been in sufficient volume to affect the ratios shown above to any significant extent.

SUMMARY TABLE 48. - VALUE OF FOREIGN COMPLETED MACHINERY AND EQUIPMENT AT CANADIAN BORDER AS A PROPORTION OF TOTAL CANADIAN EXPENDITURES ON MACHINERY AND EQUIPMENT, CANADA, SELECTED YEARS, 1929-1948

Year	Per Cent
1929	24
1933	17
1939	25
1945	37
1946	35
1947	33
1948(1)	27

Source: See Table X in Appendix A.
(1) Based on first ten months of 1948.

Foreign Produced Machinery and Equipment - Foreign Capital Costs and Domestic Handling Costs

Domestic handling costs are added to foreign capital costs. They cover three main items, import costs, transportation costs from the border to the site, and dealer mark-ups, including agent commissions. Of these three items two have been relatively stable: until the freight rate increase of 1948 there was no significant change in prevailing rates in the period under review; dealer mark-ups, including agent commissions, are usually expressed as a proportion of acquisition costs of imported machinery and equipment. No significant change in this ratio is believed to have taken place since the end of the war, although the possibility that some of the importers (dealers and commission agents) have taken advantage of a tight supply situation in the machinery and equipment field to make additional profits cannot be ruled out. No statistical measurement on a national scale of transportation costs of machinery and equipment from the border to the site and mark-ups of Canadian middlemen are available, but from informed opinion in the trade it appears that such handling costs may vary from some 3 per cent for transportation costs, if the purchaser acquires capital goods directly from the American producer or dealer, to 50 per cent of capital costs at the Canadian border, when the purchase involves the mark-ups of a Canadian

dealer or dealers and haulage over a long distance. Taking account of the fact that a large portion of heavy and special types of machinery and equipment is purchased directly from U.S. suppliers, thus eliminating a middleman's profits, Canadian handling charges, covering transportation costs and dealer mark-ups, including agent commissions, of imported machinery and equipment are believed to be of the order of 20 per cent of the value of foreign manufactured machinery and equipment brought in from abroad.

The third item of handling costs, called briefly "import costs," has proven a more variable item. It covers duties, sales, and other indirect taxes.(1) Import costs presently add about 10 per cent to the purchase price of imported machinery and equipment. This is considerably less than the proportion in either the immediate post-war period or before the war. A reduction of indirect taxes is mainly responsible for this (see Summary Table 49).

SUMMARY TABLE 49. - IMPORT COSTS AS A PROPORTION OF VALUE OF FOREIGN COMPLETED MACHINERY AND EQUIPMENT AT CANADIAN BORDER, CANADA, SELECTED YEARS, 1929-1948

Year	Per Cent
1929	18
1933	32
1939	20
1945	25
1946	11
1947	10
1948	10

Source: Estimate prepared by the Economic Research Branch, Department of Reconstruction and Supply.

Domestic handling costs of foreign manufactured machinery and equipment currently represent 30 per cent of the value of imported capital goods, or 9 per cent of all Canadian expenditures on machinery and equipment.

(1) No allowance is included in this item for exchange variations between the Canadian and the United States dollar since this must of necessity be allowed in translating the purchase price into Canadian dollars. However, it should be noted that exchange as well as taxes is an important item in reducing price fluctuations of imports for Canadian producers (see p. 113).

Domestically Produced Machinery and Equipment - Production Costs and Handling Costs

Handling costs for domestically produced machinery and equipment are of the same kind as those for foreign manufactured machinery and equipment, with the exception of import costs. However, changes in the rate and incidence of indirect taxes on machinery and equipment would affect the price of the capital goods to the purchaser. By mid-1948, indirect taxes on most domestically produced machinery and equipment had been taken off.

Again no national statistics are available for handling costs of domestically produced machinery and equipment. It is claimed that on an average they are likely to be a little higher than those attached to imports of machinery and equipment. The main reason given for this view is that domestic production of machinery and equipment includes a large number of smaller items many of which go through the hands of Canadian distributors. A national ratio of one-third of costs of domestically produced machinery and equipment is considered an appropriate allowance for transportation costs and dealers' mark-ups, including agent commissions, and any indirect taxes that may still be left (e.g. office equipment). In the absence of a more definite statistical measurement, such a ratio can only be suggestive of what goes into intermediate costs. The ratio remains tentative until better evidence becomes available.

Domestically Produced Machinery and Equipment - Materials, Labour, Overhead and Profits

The latest figures available on a national basis covering individual industries are from the Census of Manufacturing report for 1947. The following range of ratios is obtained: materials, 33 to 61 per cent, labour 27 to 45 per cent, overhead and profits, 4 to 33 per cent (see Table XVI Appendix A). Taking account of some improvement of the profit possibilities of machinery and equipment companies in 1948 as compared with 1947, the following national ratios appear to be reasonable for 1948(1). Average ratios for 1947 are shown in brackets: materials 43 per cent (44 per cent), labour, 32 per cent (33 per cent), overhead and profits, 25 per cent (23 per cent).

(1) A check of these figures will not be possible until 1949, when the results of the Census of Manufacturing for 1948 are expected to be available.

The role of overhead and profits as a factor in the ultimate sales price set at the producer level suggested by the above ratio, approximates the peak conditions of 1929. Overhead and profits, and particularly the latter, in 1948 make up a larger proportion of costs than they did in the 'thirties or the immediate post-war period (see Summary Table 50).

SUMMARY TABLE 50. - OVERHEAD AND PROFITS AS A PROPORTION OF DOMESTICALLY PRODUCED MACHINERY AND EQUIPMENT, CANADA, SELECTED YEARS, 1929-1948.

Year	Per Cent
1929	24
1933	20
1939	21
1945	23
1946	22
1947	23
1948	25(1)

Source: See Table XVI in Appendix A.
(1) Preliminary estimate.

Machinery and Equipment - Summary of Components

Taking account of the various ratios established above, the total costs incurred by Canadian business and other agencies in investing in machinery and equipment are made up in the manner described in Summary Table 51 below.

SUMMARY TABLE 51. - DISTRIBUTION OF EXPENDITURES FOR MACHINERY AND EQUIPMENT, CANADA, 1948

Item	Per Cent	
Domestically Produced Machinery and Equipment		
Production Costs		
Materials (1)	21	
Labour	15	
Overhead (2) and Profits	12	
Sub-total		48
Handling Costs		16
Total		64
Foreign Produced Machinery and Equipment		
Sales Prices at Canadian Border		27
Canadian Import Costs	3	
Canadian Handling Costs	6	
Sub-total		9
Total		36
All Machinery and Equipment		100

Source: Estimated by Economic Research Branch, Department of Reconstruction and Supply.
(1) Some of these materials would be imported.
(2) Some of the supplies, e.g., fuels included under overhead would be imported.

Construction Cost Trends 1929 - 1948

How high have construction costs risen between 1939 and mid-1948? The answer, in approximate terms, is: more than double. Compared with 1929, mid-year 1948 costs are up about four-fifths the level prevailing at the peak of the last investment boom. The most significant price developments, however, took place in the last ten years.

Wholesale prices of construction and building materials rose 118 per cent from 1939 to mid-1948. Wage rates of construction and building labour increased in the same period by 71 per cent. Using a weight suggested earlier in this study of 50 for materials and 37 for labour (see p.100), the combined material and labour index shows an increase of 97 per cent.

At a first glance these increases appear large, but on examination it is found that they are more or less in line with increases in the earnings of the average Canadian and with rises of prices and wages in other segments of economic activity in Canada. More serious, however, is the decline in labour output, operating and managerial efficiency, and increases in supplementary charges, which are discussed later on.

Total salaries, wages and supplementary labour income, including military pay and allowances, amounted to $2.6 billion in 1939, and rose to $7.1 billion in 1948. If allowance is made for changes in the labour force, per capita dollar earnings increased 146 per cent between 1939 and 1948.

A comparison of wage rates for five major industrial groups shows that the increases that occurred between 1939 and 1948 ranged from 69 per cent (transportation and communication) to 115 per cent (logging), with mining 83 and manufacturing, the largest group of employment, showing an average increase of wage rates of 110 per cent. Wage rates of the construction worker, with a 71 per cent increase, were considerably below the general average of 94 per cent. Earnings of construction workers, however, have risen more rapidly than wage rates would suggest, because of the fact that construction workers in times of high levels of employment work a greater number of hours and increase their earnings from prevailing wage rates by overtime and holiday work, with rates one and a half times to twice the prevailing rates. In addition, the fairly common practice during the war and immediate post-war period of paying skilled workman wages to semi- and unskilled construction workers contributed to the increase in the average annual earnings.

Wholesale prices of various commodities increased between 62 per cent (iron and its products) and 133 per cent (wood and its products and paper). Building materials, showing an increase of 118 per cent, were placed between these two extremes and were moderatly above the increases of the all-commodity wholesale index covering over 500 commodities, which shows an increase of 102 per cent (see Summary Table 52).

SUMMARY TABLE 52. - INCREASES OF HOURLY WAGE RATES FOR SELECTED GROUPS OF INDUSTRIES, OF WHOLESALE PRICES OF SELECTED COMMODITIES, AND OF COST OF LIVING, CANADA, 1939-1945, 1945-1948, 1939-1948.

(In Per Cent)

Item	1939-1945	1945-1948(1)	1939-1948(1)
Wage Rates in Industry			
Logging	53	40	115
Manufacturing	47	43	110
Mining	37	34	83
Construction	31	31	71
Transportation and Communication	29	31	69
General Average	42	37	94
Wholesale Prices of Commodities			
Wood and Its Products and Paper	52	53	133
Animals and Their Products	45	58	128
Building Materials	42	54	118
Fibres, Textiles, and Their Products	31	69	122
Iron and Its Products	19	36	62
All Commodities	37	47	102
Cost of Living			
Food	32	51	100
All Consumers' Commodities	25	43	79
Total Index of Consumers' Commodities and Services	18	31	55

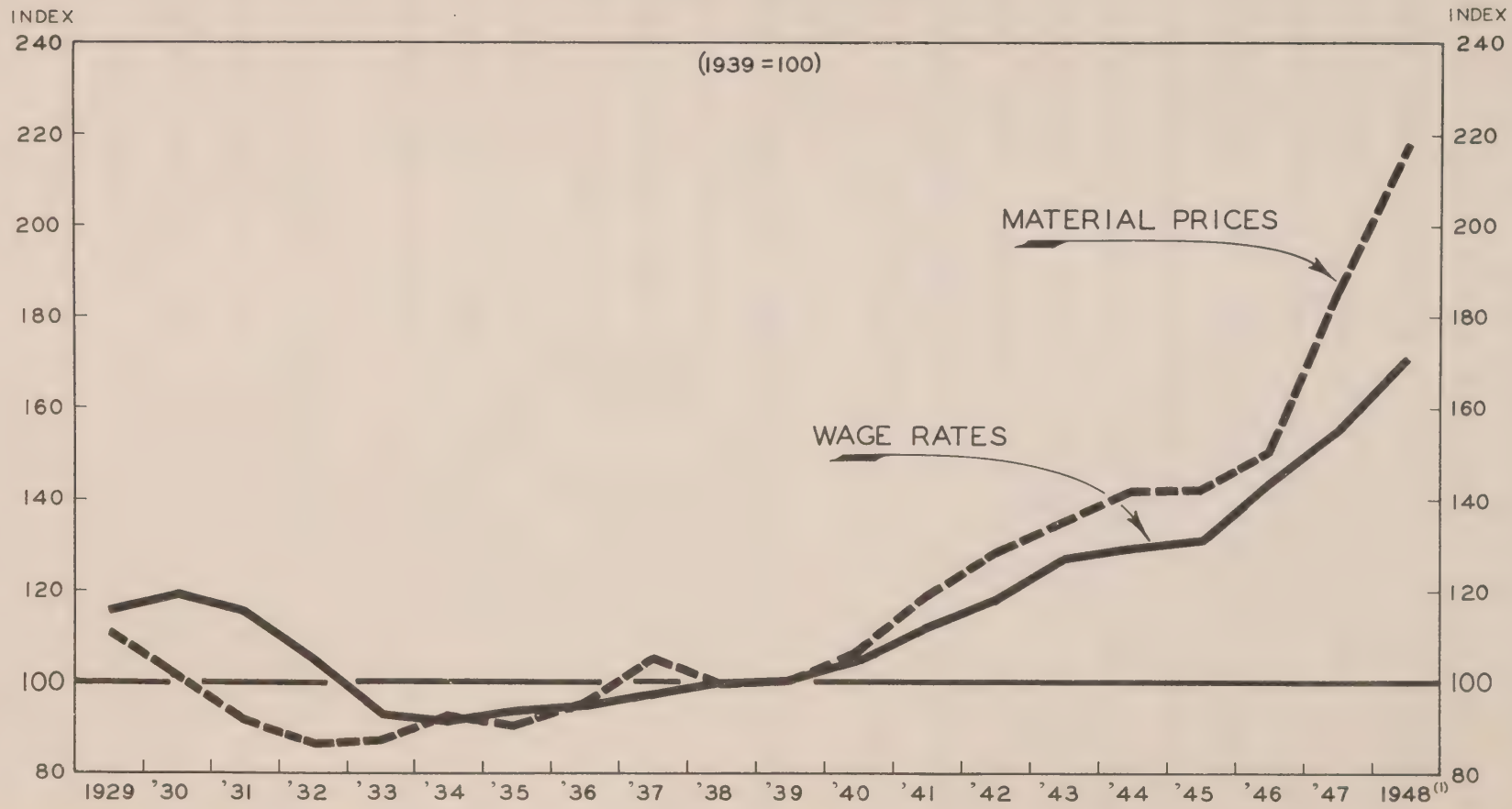
Source: See Table XIX in Appendix A.
(1) July, 1948.

The increases in prices of building materials and wage rates of construction labour which occurred since 1939 are of about the same magnitude as those that occurred during and after the first World War. Between 1913 and the middle of 1920 - when prices turned downwards - wholesale prices of building materials rose by 115 per cent. This is slightly less than the increase of 118 per cent which occurred between 1939 and July, 1948. Wage rates of construction labour, however, were faster in their upward movement during and after the first World War (81 per cent) than during and after the second World War (71 per cent). Quite apart from the difference in the price pattern and the degree of controls

- FIGURE V -

INDICES OF CONSTRUCTION INDUSTRY WAGE RATES AND BUILDING MATERIAL PRICES,

CANADA, 1929-1948.



(1) JULY 1948.

SOURCE: SEE P. 255.

that were in existence during these two periods, there is another important difference in terms of the outlook. By April of 1920 prices in the construction field had pretty much reached their peak and a downturn set in, slowly at first for the remainder of 1920, but more rapidly in 1921. By mid-1948, however, prices of building materials and wages of construction labour were still on the upturn, and a continuance of the trend in the immediate future seemed indicated.

The claim is frequently made that the lifting of construction control, which occurred in December, 1945, and the gradual decontrol of prices of materials and earnings in the early post-war period caused prices of building materials and wage rates of construction workers to rise very rapidly, quite out of line with increases in other fields. This view is not supported by available evidence.

Increases of wage rates in five major industries and wholesale prices of five major groups of commodities discussed above are shown separately for two periods, the war period, 1939 to 1945, and the post-war period, 1945 to 1948 (see Summary Table 52).

Construction wage rates during the war period increased 31 per cent, compared with the general average of 42 per cent, and the minimum of 29 per cent for transportation and communications and the maximum of 53 per cent for the logging industry. In the post-war period increases of construction wage rates, with 31 per cent, share with the transportation and communication group the place of smallest increases, 6 per cent below the general average of 37 per cent, and 15 per cent below the maximum increases of 43 per cent which occurred in manufacturing.

While wholesale prices of building materials increased more rapidly than wage rates of construction labour, the increases that did occur during either the war period or the post-war period were not as high as increases that have occurred in other fields. For example, during the war period building material price increases of 42 per cent were exceeded by price increases of animals and animal products, 45 per cent, and wood and its products and paper, 52 per cent. During the post-war period building material increases of 54 per cent were exceeded by increased prices of animals and animal products of 58 per cent, and fibres, textiles and textile products of 69 per cent. In both periods, costs of building materials were above the general average, 5 per cent in the former and 7 per cent in the latter period.

This evidence suggests that increases of wage rates of construction labour and prices of building materials were well in line with general wage and price increases that occurred during both the war and immediate post-war periods. If these two cost components were the only determinants of the ultimate price paid by the purchaser of a construction or other type of product there would be no justification for the claim that construction costs are today considerably out of line with other costs. But since there appears to be some justification for the claim, there must be other factors which contributed towards raising the final cost of the construction product above the increases that have taken place in consumer goods. The question is: What are these factors and how significant are they?

Four main factors have become apparent: (a) decline in labour efficiency, (b) decline in operating efficiency, (c) decline in managerial efficiency, and (d) substantial profit increases.

(a) Decline in Labour Efficiency. Output per construction man-hour has consistently declined between 1939 and 1946, with the first signs of improvement becoming noticeable in 1947 and 1948. The most commonly quoted example is that of the bricklayer, who now lays on an average 300 bricks per eight hour working day, as compared with 500 bricks or better in pre-war days, or a decline in output per man-day of a least 40 per cent. There are several reasons for the decline in output per construction man-hour:

(1) construction workers, particularly skilled tradesmen are growing older, and there are no adequate replacements.(1) This gradual aging process, with resulting decline in efficiency, is mainly due to the fact that the number of younger men being trained in the construction trades has with few exceptions been consistently small in the past, and has been insufficient to provide replacements for the older men leaving work. Some speed-up in training methods and a larger flow of construction apprentices have taken place in the post-war period,(2) but even this improvement has been insufficient to meet the needs of the industry.

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(1) For quantitative evidence, see Manpower and Material Requirements for a Housing Program in Canada, Department of Reconstruction and Supply, Ottawa, 1946, pp. 32 and 34.

(2) Housing in Canada, July 1948, Central Mortgage and Housing Corporation, Ottawa, pp. 19 and 67, and preceding issues.

(2) Because of the lack of a sufficient number of trained craftsmen and increased employment opportunities in the construction field arising during the war and post-war period, these vacancies were filled by semi- and unskilled construction labour, claiming and obtaining wage rates of tradesmen. This dilutio dilution of the construction labour force made a decline in output per average construction man-hour unavoidable.

(3) With a standardization of prevailing wage rates and ample employment opportunities there did not appear during the war years and immediate post-war period any specific incentives for construction workers to work particularly hard. If they did not meet the standards set by one employer they could easily find other jobs. It was not until 1947, with the realignment of the labour force from war to peacetime purposes completed and a significant increasesof the construction labour force that it was occasionally possible for builders or contractors to fire incompetent building mechanics or to treat an unskilled construction worker as a common labourer if his claim for full craftsmanship was not warranted. But even at present manpower shortages are still serious enough to leave management in the construction industry little opportunity in assembling an efficient labour force.(1)

(b) Decline in Operating Efficiency. This was mainly the result of shortages of construction and building materials. Frequently building materials ordered did not arrive at the site on time and workmen were kept waiting. Their wages had to be paid because contractors and builders could not afford to dismiss the men in the interim. Had they done so they would have found it difficult to

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(1) The complexity and variety of the causes that have led to the general decline in output in a number of industries has appropriately been pointed out by emphasizing that the problem is not solely one of lack of personal effort, nor is it peculiar to capital goods industries only. "A lowering of productivity below the pre-war level has occurred in other industries owing in some measure to common factors arising from the changed economic and social conditions of the post-war world. Before the war, labour and materials were generally plentiful in relation to the volume of work undertaken, and the fear of dismissal acted as a powerful incentive to individual effort. Since the war, the position has been reversed; unemployment has given place to over-full employment and jobs have competed for manpower and materials. The quantity of orders placed has tended to create an excessive load upon resources, and in the result productivity as measured by output per head has in some industries been adversely affected. Too many orders have been chasing too few workers and materials," (The Cost of House-Building, First Report of the Committee of Inquiry appointed by the Minister of Health (United Kingdom), London, 1948, p. 37).

assemble the labour force again when the materials arrived. On other occasions a low priced type of building material commonly used in construction was unobtainable and had to be replaced by a higher priced article. For example, a copper pipe would be used instead of an iron pipe, doubling the cost of this particular item, or, in the days of the nail shortage, a keg of nails costing three times the domestic price would be imported from the States.(1)

(c) Decline in Managerial Efficiency. This was mainly due to the entry of a large number of new building or contracting firms, particularly in the post-war period. Construction activity was high, there was plenty of work available, and users of construction products were willing to pay high prices to get their work done. As a result, a number of new entrepreneurs entered the field. Many of them had little previous experience, but hoped for high profits in the construction boom under way. This type of builder, having neither the experience not the means at his disposal to organize construction projects efficiently, would offset in part the increasing efficiency of some of the older established firms, with the result of depressing the average managerial efficiency in the construction field. As Summary Table 53 shows, the number of construction companies subject to income tax increased by about one-third from 1944 to 1946 and more are reported to have entered the field since.

SUMMARY TABLE 53. - NUMBER OF CONSTRUCTION COMPANIES SUBJECT TO INCOME TAX, CANADA, 1944-1946.

Year	Number of Companies
1944	809
1945	908
1946	1,068
1944-1946 percentage increase	32

Source: See Table XXIV in Appendix A.

(1) To give an example of the general comments made on this point: "One of the reasons building is so much more expensive than it was before the war is the marked jump in the price of cement. In 1938, cement sold for 71¼ cents, as compared to the current price of 97½ cents a bag. But that isn't all. The stuff is so hard to get that some dealers import it from the United States, chiefly from Buffalo. This involves paying a heavy duty to bring it into Canada, and a dealer, in order to make any profit at all, must sell it around $2 a bag. That, at least, is the explanation of an official of one of Toronto's largest building supply companies, who adds: 'Uninformed buyers might jump to the conclusion that such a disparity in prices indicated a black market in cement, but it is obviously not so'." From an article "Up Goes Cement, Supply so Short Buying it in U.S." Globe and Mail, Toronto, October 19, 1948.

(d) Substantial Profit Increases. As indicated previously, national figures on profits of the construction industry are very scanty. In many cases of smaller entrepreneurs only incomplete records are kept, and profits of large firms which keep good records are not always representative of profits made by smaller builders. From the bits and pieces of information available the following observations can be made:

If profits had risen between 1939 and 1948 as much as materials and wages they would be up about 97 per cent over 1939, as indicated by the weighted material-labour index. However, in the construction industry the mark-up for overhead and profit is generally applied to the final operating costs of the contractor. This means that he gets a profit mark-up on the cost involved to pay for the decline in efficiency noted above. It is also claimed that with the expanding market a number of contractors have added an additional percentage mark-up. Other builders have made additional profits through speculative house building. It is not known how much national profits of the construction industry have risen since 1939 but it appears that they have risen more rapidly than material prices and wage rates, and the average may well be one and half times the level of 1939. However, even if this were the case, the construction industry claims that the profits they are making at present are not unreasonable in the light of the heavy responsibilities of the industry. It is also suggested that the apparently large increase is in some measure misleading because it uses 1939 as a base, in which year profits of the construction industry were at a low level and, in the opinion of the industry, not commensurate with the managerial effort involved.(1) Whether current profits of the construction industry are in line with the profits made in other industries would require a detailed industry-wide profit analysis, which goes beyond this study.

Quantitative evidence as to the overall effect of the four above-mentioned factors is limited. A special survey undertaken in 1946 suggests that these factors added between 10 and 25 per cent to construction costs of housing.(2)

(1) The following statement reflects the attitude of the industry: "Perhaps in no other industry is the range of fluctuation apt to be so wide as in construction. Bearing in mind this condition, the hazardous nature and other uncertainties relating to the industry, it is essential that those engaged in the industry earn a substantial return on capital invested during periods of activity to tide them over periods during which losses are sustained." Submission to the Minister of National Revenue under Section 5 of The Excess Profits Tax Act, Canadian Construction Association, Ottawa, January 7, 1941, p. 6.

(2) Manpower and Material Requirements for a Housing Program in Canada, op. cit., p. 34.

The situation was re-examined early in 1948 and it was found that some improvement had occurred, reducing the margin of extra cost to from 10 to 20 per cent(1) The situation in other types of construction is similar to what has been happening in the housing field. According to a survey of the Canadian Construction Association, a decline in labour efficiency added 30 per cent to labour costs in 1946 as compared with 1939.(2) This means an 11 per cent increase of total construction costs, since labour costs are about 37 per cent of total costs. The concern of the construction industry about the effect of continuous increases of construction costs upon the prospective level of construction work is reflected in several public minded appeals by the Canadian Construction Association to its members and to other builders outside its organization. The Association emphasized "that the construction industry can ill afford any further cost rises if building is to continue at its present rate and current high levels of employment and income are to be maintained." To cope with this problem the Association issued a strong appeal in January, 1948 "to all employers and employees in construction and allied industries to exert every effort to increase productivity and to exercise all possible restraint to avoid further construction cost increases ... To combat inflation and promote stabilized construction costs the Canadian Construction Association advocates: greater individual productivity .., long-term wage agreements, a return to firm prices, greater management efficiency, research and the development of new methods and techniques."(3)

In the first half of 1948 improved materials supply and an expanded construction labour force were encouraging signs of reducing the above-mentioned margins of extra costs even further, but in the second half of 1948 increased demand and a prospect for a reduction in supplies available for civilian purposes, particularly in the field of steel and steel products, caused a definite tightening of the situation.(4) As a result the range of extra costs has hardly changed

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(1) Housing in Canada, July 1948, op. cit., p. 22.

(2) Statement of Construction Costs, by the President of the Canadian Construction Association, Special Meeting of the Management Committee, Montreal, April 9, 1947.

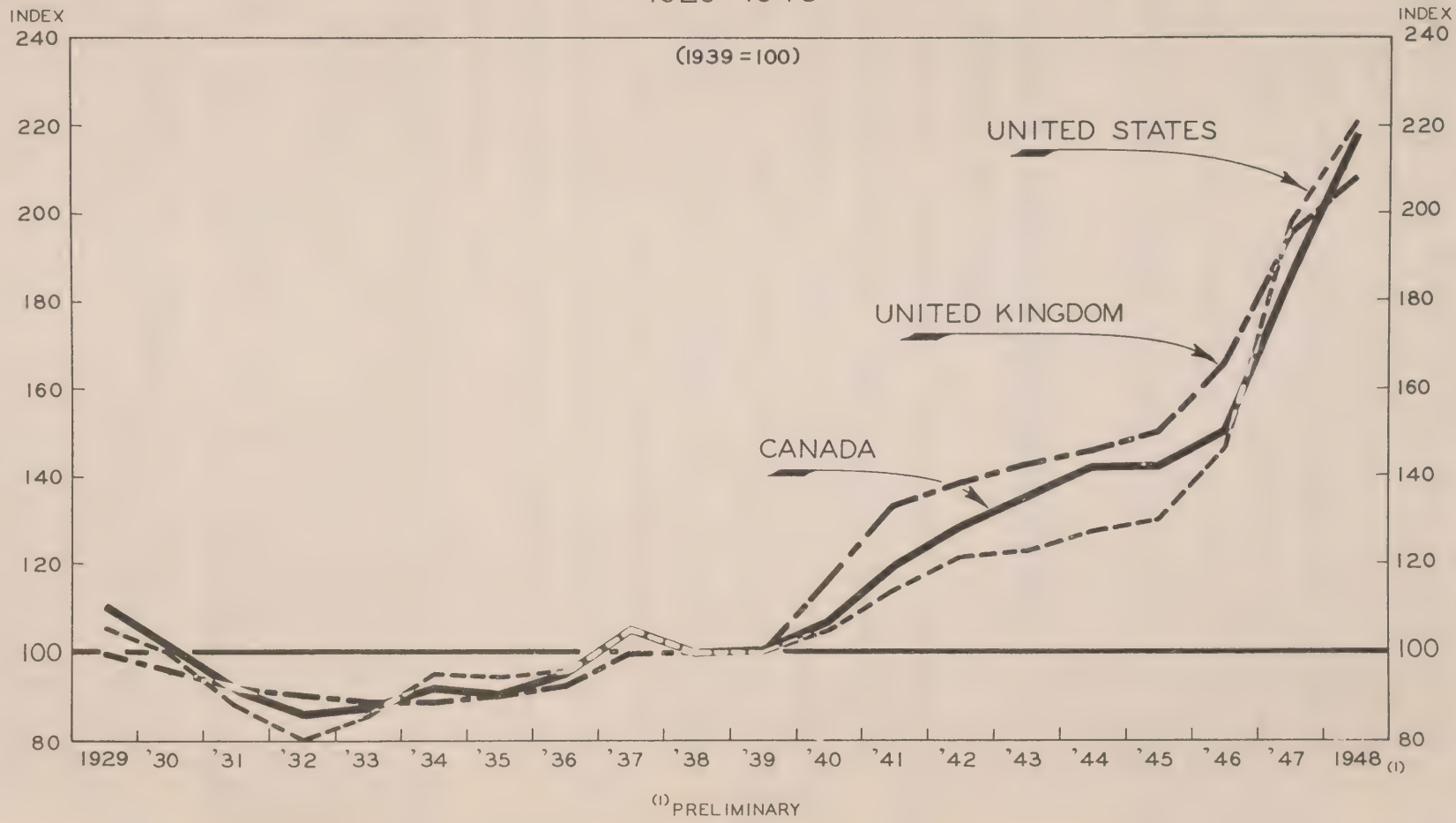
(3) Press Statement Re Construction Costs, released by Canadian Construction Association on the occasion of the thirtieth annual meeting, in Quebec City, January 28, 1948.

(4) The Canadian Construction Association speaks of the continuation of what it calls "intangible cost factors." It includes in this "material shortages causing delays in importation of dutiable goods and the use of more expensive alternatives to secure demand for increased services and facilities in present day structures." These elements are considered to be contributory to continued increases of costs. Statement on Construction Costs. January 1, 1946 to July 1, 1948, Canadian Construction Association, Ottawa, 1948.

- FIGURE VI -

WHOLESALE PRICE INDICES OF CONSTRUCTION MATERIALS, CANADA, UNITED STATES, UNITED KINGDOM.

1929-1948



SOURCE: SEE P. 254.

between 1947 and 1948 as a whole[1].

Adding the above-mentioned allowance for extra costs to increases in prices of building materials and construction wage rates, total construction costs are up between 107 and 117 per cent by mid-1948 as compared with 1939. This increase is almost as high as the construction cost increases which occurred in the United States. According to the Department of Commerce composite construction cost index, by July 1948 American costs were 116 per cent above the average for 1939[2]. Similarly, construction costs in the United Kingdom in 1948 appeared to be considerably more than twice the costs in 1939 (see Table XVIII in Appendix A)[3].

Machinery and Equipment Cost Trends 1929-1948

Foreign Produced Machinery and Equipment

Costs of machinery and equipment manufactured in the United States f.o.b. plant have increased about 82 per cent between 1939 and mid-1948, somewhat less than the increase of prices of Canadian produced machinery and equipment (92 per cent). However, costs to the Canadian purchaser of foreign produced capital goods at the Canadian border, after allowing for import costs, have gone up less (62 per cent) than indicated by increases of U.S. production costs (see Table XXI in Appendix A). The reason for this is the current parity between the Canadian and American dollar and lower duties and indirect taxes as compared with 1939.

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(1) This decline in post-war productivity is a problem that transcends national boundaries. For example, a careful analysis of what has made housing costs go up in the United Kingdom between 1938-1939 and 1947 indicated that costs of a typical three-bedroom house of the same type increased from £380 before the war to £914 in the second full post-war year, or an increase of 141 per cent. Of this rise 111 per cent was due to higher wage rates, material prices, plant charges and overhead costs, and 30 per cent due to a decline in productivity between 1938-1939 and 1947 (The Cost of House Building, op. cit., p. 13).

(2) Construction and Construction Materials, U.S. Department of Commerce, Bureau of Foreign and Domestic Commerce, Washington, Statistical Supplement, May 1948, p. 52, and September 1948, p.14. According to some investigators the above construction cost index for the United States does not take adequate account of factors which affect the total construction cost as distinct from the components allowed in the index. One estimate suggests that construction costs of an identical house increased by 149 per cent between 1939 and 1948 (see Outlook for Real Estate and Construction, address by Roy Wenzlick, before the National Association of Mutual Savings Banks, New York, December 6, 1948).

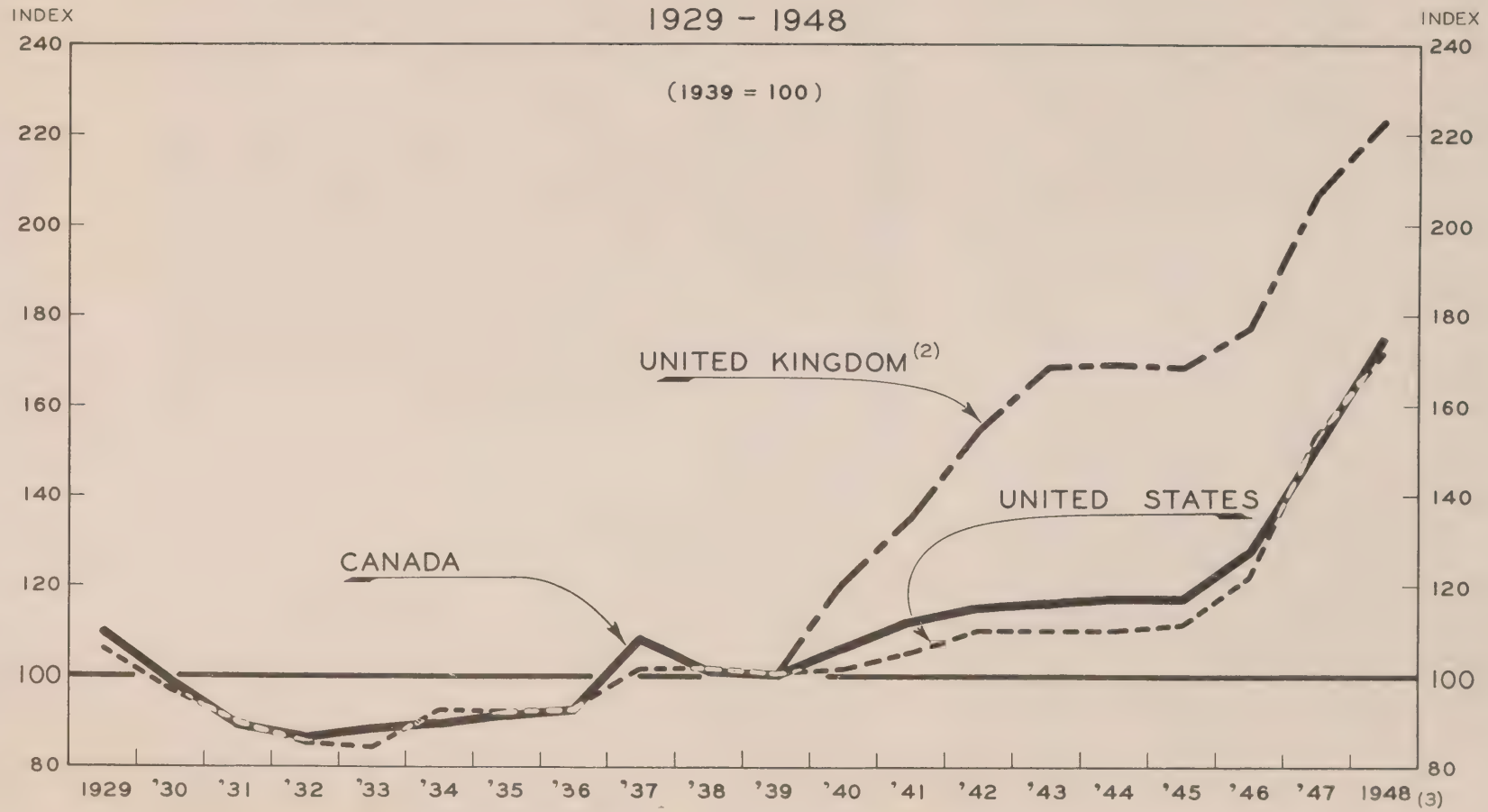
(3) The fact that materials and wage rate indices understate actual construction cost increases that have occurred in other countries is indicated by the example referred to earlier, which showed that building costs of a typical three-bedroom house have risen by 141 per cent, notably higher than material and wage rate or earnings indices would suggest (see footnote 1 above).

- FIGURE VII -

INDICES OF WHOLESALE PRICES OF METAL AND METAL PRODUCTS,

CANADA, UNITED KINGDOM,[1] UNITED STATES.

1929 - 1948



(1) EXPORT PRICES.

(2) NOT AVAILABLE PRIOR TO 1939. (3) JULY 1948.

SOURCE: SEE P. 257.

In the United Kingdom, export prices of machinery and equipment seem to have risen even higher than corresponding prices in Canada or the United States. The U.K. export price index of metal goods shows an increase of 123 per cent between 1939 and mid-1948 (see Table XXI in Appendix A). Quite apart from these price increases, delivery dates are frequently even longer than American or Canadian. First signs of an improvement of delivery dates and contacts between Canadian buyers and British suppliers in the capital goods field have appeared in 1948. But any easing of supply lines between the United Kingdom and Canada in the machinery and equipment field is currently threatened by the preparedness program which has been gathering speed in recent months. These few observations are illustrative of the difficulties which Canadian manufacturers face in placing orders for machinery and equipment in the United Kingdom.

Domestically Produced Machinery and Equipment

Costs of materials used by the machinery and equipment industries in Canada have risen about 75 per cent between 1939 and mid-1948. Wage rates paid to iron and steel workers have in the same period gone up about 100 per cent. Fuels, which comprise an important element of overhead cost, have gone up between 65 and 87 per cent. Taking account of the first two factors, total costs of domestically-produced machinery and equipment were 92 per cent above 1939 (see Summary Table 54). This figure is comparable with the American cost increase figure referred to above. However, the figure understates the total price increase to the purchaser because it does not take account of changes in the overhead and profit ratio. From the meagre information available on profits it appears that the latter comprises today a larger proportion of total costs than it did in 1939 (see Summary Table 54 and Table XXIV in Appendix A).[1] If an

(1) Available statistical material on profits, sales and other pertinent factors of operations of machinery and equipment and basic and building materials companies are assembled in Tables XXIII, XXIV and XXV in Appendix A. The lack of comparability of the different series and the absence of up to date information point to the difficulties in giving more than an impression of current profit trends.

allowance for this factor is made, total costs of machinery and equipment are currently 95 per cent above 1939.(1)

SUMMARY TABLE 54. - INCREASES OF COSTS OF COMPONENTS ENTERING DOMESTICALLY AND FOREIGN PRODUCED MACHINERY AND EQUIPMENT, USED IN DOMESTIC INVESTMENT IN DURABLE PHYSICAL ASSETS, CANADA, AND THE UNITED STATES 1939-1948 (1)

(In Per Cent)

Item	Canada	United States
Wage Rates in the Iron and Steel Industry	100	97
Materials - Metal and Metal Products	75	72
Overhead - Coal	65	95
Coke	87	101
Weighted Average - Constant Profit Ratio	92	82 (2)
Changing Profit Ratio	95	- (3)

Source: See Tables XX, XXI and XXII, in Appendix A.
(1) July, 1948.
(2) Cost to Canadian purchaser is up only 62 per cent because of the Canadian parity with the U.S. dollar and lower duties and indirect taxes in 1948 as compared with 1939.
(3) Not available.

All Machinery and Equipment Used in Canadian Investment

Taking account of the variations in cost increases to the Canadian purchaser of machinery and equipment brought in from abroad and purchased from Canadian suppliers, total costs of machinery and equipment as used in the Canadian investment program have gone up by a little better than 80 per cent. This is between 27 and 37 per cent less than the increases of construction costs which have occurred between 1939 and mid-1948.

Prices of Capital Goods Compared with Other Domestic Prices

Taking account of construction cost increases of 107 to 117 per cent and of machinery and equipment cost increases of about 80 per cent as between 1939 and mid-1948, it appears that costs of total capital goods going into the Canadian investment effort are currently about double what they were before the war. How does this increase compare with the movements of prices of consumer

(1) This analysis does not take account of productivity changes in the machinery and equipment industries, but here available evidence is even more inconclusive than in the construction industry. Some firms complain about losses in productivity. Others say that they have been able to offset and even better losses in output per man-hour that have occurred by improved and increased mechanization of their plants.

goods? Are there any appearances of distortions in the price movements in the investment sector, relative to other price movements?

Speaking in overall terms, the increase is notably higher than that of prices paid for consumer goods and services. The cost of living index only shows an increase of 55 per cent for the same period. However, this difference narrows down if the prices of services and rent are eliminated from the index, for retail prices of consumer goods are up 79 per cent. For the purpose of comparing prices of capital goods with prices of consumer goods, the index of retail prices ape appears to be the most appropriate, as rent, which has the heaviest weight for any single item in the non-commodity sector, is still partially controlled, while price controls over capital goods have practically all been removed. On this basis consumer goods prices have risen some 20 per cent less than prices of capital goods from 1939 to 1948. This difference, though notable, does not appear to represent serious price distortions in capital goods prices, vis-a-vis prices of consumer goods.

The surprising thing about these movements in relative prices is that greater price distortions have not occurred, considering the large expansion in investment which has taken place relative to 1939. For the capital goods field as a whole two factors are important explanations for this - first, the availability of labour about the time the expansion in investment was beginning, and secondly the high degree of mobility of labour and capital equipment present at the same time.

In the early part of the war, excess capacity of fixed assets in the construction and machinery and equipment industries was present, and a large increase in output could easily take place by drawing in labour from the reserve of the unemployed still present in the economy. This expansion could and in fact did take place without the attraction of significantly higher wage rates or prices. At the end of the war much of the large expansion in capacity in the manufacturing sector could be readily converted to meet the needs of the peacetime investment program. Iron and steel plants, and machinery and equipment industries are examples where manpower and plant capacity could easily transfer from war to peacetime requirements without - at least initially - any significant changes in relative wages and prices. The construction industry had greatly improved its equipment during the war years. When peace came this industry's

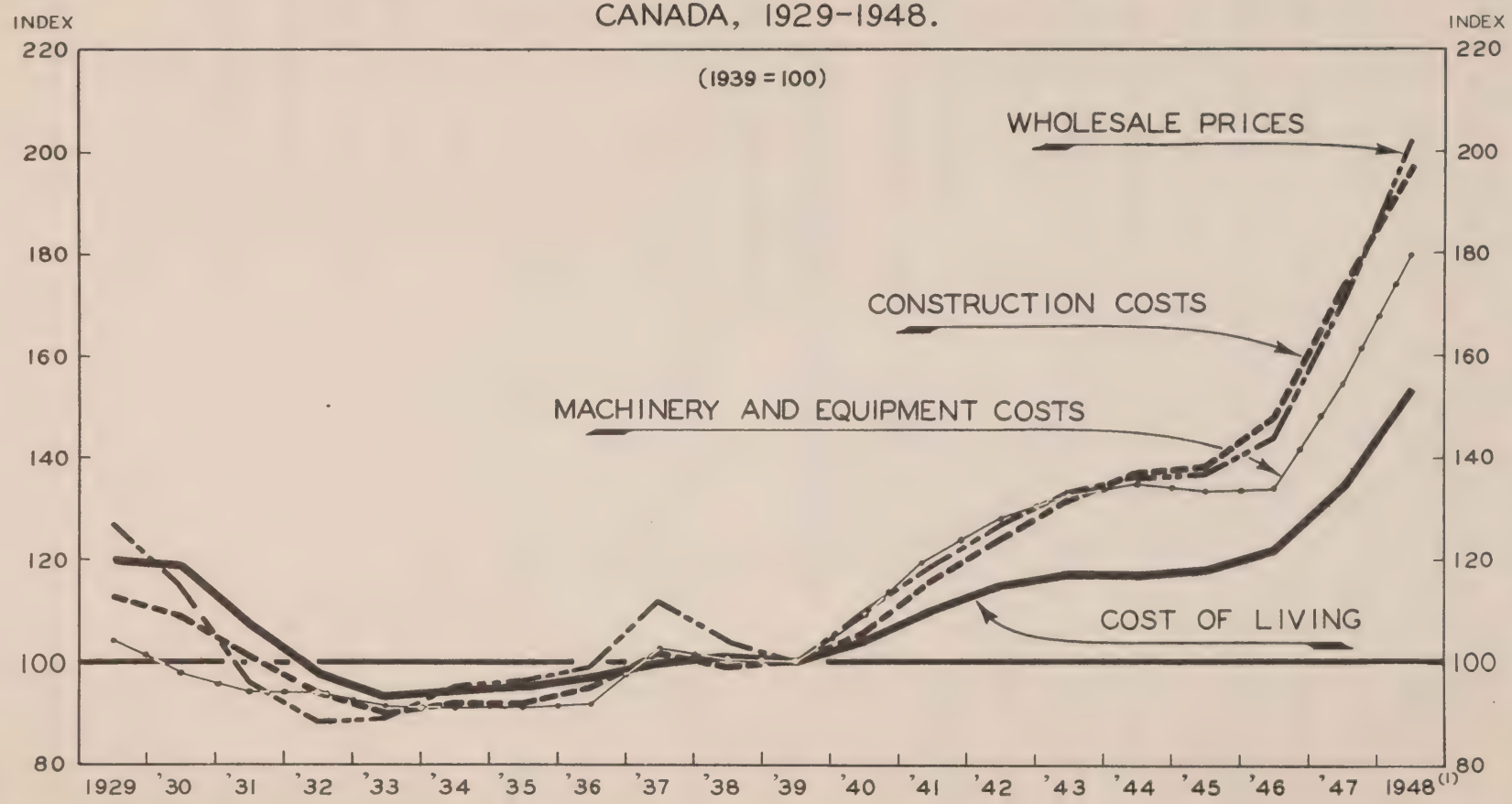
most urgent need was experienced managers and craftsmen. Many of the returning veterans met these needs.

The mobility of labour and capital equipment, combined with the availability of the necessary factors of production when the expansion in the investment program was just getting under way, permitted the rapid expansion of investment activity without serious price distortions in this field. But for these favourable factors prices of capital goods might have increased considerably more than they have.

- FIGURE VIII -

COMPARISON OF PRICE INDICES OF CONSTRUCTION COSTS AND MACHINERY AND EQUIPMENT COSTS WITH COST OF LIVING AND WHOLESALE PRICE INDICES,

CANADA, 1929-1948.



(1) JULY 1948.

SOURCE: SEE PP. 255 AND 257.

IV. CONTRIBUTION TO ECONOMIC DEVELOPMENT AND IMPROVEMENT OF STANDARD OF LIVING

How does investment affect the well-being of the average Canadian? There are thirteen million people in Canada, every one of them a consumer and five million of them also producers. Every consumer and producer is affected either directly or indirectly by the volume and the composition of the investment program. In fact, but for the ingenuity of her people, the availability of natural resources, and the large accumulation of capital, Canada would not be enjoying her present high standard of living. In this respect, Canada is surpassed only by the United States, which has succeeded in accumulating an even larger volume of capital on a per capita basis. An appraisal of the impact of the investment program on the daily life of the average Canadian is best conducted by examining separately the immediate employment and income affects of investment, and the longer run production and service effects.

Immediate Employment and Income Effects

Direct Employment and Income Effects

Employment and income effects of capital expenditures include the jobs provided and the money earned by those who contribute labour, skill, initiative and capital to the production of capital goods and the rendering of services which go into the investment program. Employment and income directly attributable to the investment program fall into two categories.

One group is composed of the people who plan and design structures, installations, equipment and machinery, such as architects and engineers, and of those who provide services essential in most cases to investment in its preconstruction or pre-installation stages, such as real estate dealers and other agents, lending institutions, lawyers and surveyors. It includes also in the field of construction the work performed by contractors, builders and developers who organize and supervise the completion of construction projects, and actual on-site workers such as foremen, building craftsmen, semi-skilled and unskilled construction workers. In the field of machinery and equipment the producers and distributors of these capital items, together with their factory and office working forces must be included.

The other group consists of those who produce, store, sell, and transport the building materials required for construction and the raw and

processed materials and supplies required in the manufacture of machinery and equipment. This group is wide and varied and includes people in all parts of the country ranging from the raw material producers in Canada's mines and forests to large manufacturing concerns, and from the wholesaler in a metropolitan centre to the hardware storekeeper and station agent in a small community.

This brief enumeration suggests that investment expenditures affect many Canadians in every walk of life. The question is: how many? While no national surveys have ever been made, it is possible to base a first approximation of the employment effect on the knowledge that expenditures on new construction of machinery and equipment are currently about 20 per cent of the gross national expenditure. On this basis the direct employment effect of the investment program in 1948 can be put at about 1,000,000 men and women. But not all of this represents employment in Canada, since considerable quantities of completed machinery and equipment and many types of materials and parts which finally find their way into domestic investment are imported. The foreign employment content of the Canadian capital expenditure program appears at present to involve some 250,000 persons. The domestic employment effect of the investment program is therefore reduced to 750,000 Canadian workers. These figures suggest that Canada has been able to supplement her own scarce manpower in the capital goods industries from the resources available in other countries, mainly the United States. These demands appear trifling indeed when one considers the manpower resources and the industrial potential of the United States. Moreover, the effect on employment in that country is further reduced by the fact that not all imports entering into the Canadian investment program originate in the United States. However, even if the full 250,000 were taken as a basis of comparison this would still represent less than one-half of 1 per cent of the total labour force of the United States, which currently exceeds the 60 million mark. In return for imports of essential capital goods, Canada has willingly increased the labour force in some of her export industries such as newsprint, base metals and lumber to meet some of the strategic shortages of her neighbour to the south. By this bilateral division of labour

both the United States and Canada have been able to make more effective use of their complementary resources.

Secondary Employment and Income Effects

So far the appraisal has been concerned with the direct employment and income effects of capital expenditures covering on-site operations in the construction industry, factory operations of producers of machinery and equipment, off-site production, distribution, and transportation of materials, together with the host of specialized service functions required by an investment program in an advanced industrial society. There are, however, other employment and income effects of investment. The most important of these, generally described as "secondary" effects, consist of employment and income generated in consumer goods industries through the spending of wages and salaries and profits earned by the first group of industries. An increase in the volume of investment will be associated with subsequent increases in the volume of consumer expenditure and levels of employment and income.

Effects of capital expenditures will vary depending on the levels of employment and income prevailing in the country. A distinction should be made with regard to the effect on volume and on prices. As long as there are idle resources in the economy the secondary effects of an additional volume of investment will mean an added volume of employment and income in consumer goods and service industries. An increased volume of investment will lead to an increased volume of consumer expenditures without significant changes in the level of prices and wages. However, as the stage of high levels of employment and income is approached, an additional volume of investment can be achieved only by transfer of factors of production from other sectors of the economy, and no further overall increase in employment can be achieved. In periods of high prosperity, therefore, shortages will begin to appear in the market for investment goods and services or in the market for the factors of production, and the bidding up of these "short" items occurs. These increases in prices and wages spread throughout the system. Two observations about the secondary effects appear to be indicated:

(1) In periods of low or fair levels of employment and income an

expansion in investment will mean added employment and incomes in consumer goods and service industries and an increase in total output.

(2) In periods of prosperity - like the present - further additions to the volume of investment will lead primarily to increases in the levels of prices and wages rather than to increased volume of output and employment.

Long Run Production and Service Effects

Investment expenditures are made for a purpose. The purpose will differ depending on who undertakes an investment project. Capital expenditures are made by business because it expects as a result of this outlay to provide an improved service to its customers whether this is in the form of more goods, better quality of goods, or lower prices, and in so doing improve or maintain its own economic status. To a lesser extent, capital expenditures also serve to improve working conditions. Capital expenditures are also made by governments to improve or maintain the standard of services provided to both business and consumers, and by consumers to improve their standard of living. The production and service effects of investment, i.e., those which result from the employment of capital goods after the investment expenditure has been made, are considered long term effects as distinct from the short run or immediate effects on employment and income. The long run effects of investment are considered below for three major groups, business, governments and consumers.

Significance of Business Investment

The business man spends money on investment because of the returns he expects to obtain by employing the asset to produce goods or render services to other business men, consumers, institutions or governments. The capital expenditures made will serve either to replace or improve existing assets or to acquire new assets. The impact of investment will vary depending on the type of capital expenditure, the line of business, and the time it is made. Some effects of particular importance in the post-war period include:

1. Increased Output. In Section II reference has been made to the rapid increases in the output of capital goods in the post-war period, which in turn made it possible to carry out a large investment program. This

achievement was in no small measure due to the expansion of plant and capacity for building material production (see Summary Table 75 in Section II). As a result of this expansion process, output of building materials in volume terms was about three-quarters greater than it had been in 1945. Remarkable achievements were also accomplished by machinery and equipment producers many of whom were not so much concerned with expanding total output as with shifting their machinery and equipment produced for war purposes to items needed for peacetime pursuits. In these industries conversion, modernization and expansion of plant and equipment yielded notable results, as indicated in Section II. By mid-1948 the Minister of Trade and Commerce was in a position to report: "We are already reaching a stage at which the very large capital investment made both during and after the war are beginning to pay off materially in increased production."(1)

Increases in output resulting from investment expenditures in the post-war period cover many other fields in addition to capital goods industries. The newsprint industry, one of Canada's most important earners of foreign exchange, has been gearing its production mechanism by using better and more efficient machinery than ever before. The latest paper machine currently being installed will increase newsprint capacity by 50,000 tons in 1949. This unit will produce newsprint at a running speed of between 1850 and 1950 feet per minute and is currently rated as the most advanced high speed machine in the world. Its contribution to the overall efficiency of the industry can be shown by the fact that it produces exactly the same quality newsprint as the"best" pre-war machines which run at speeds of between 1100 and 1300 ft. per minute without requiring additional labour. In addition to this it produces rolls of 266 inches instead of the previous best width of 234 inches and it will eventually replace two machines which now make 150 and 156 inch newsprint while reducing the number of operators required by 50 per cent.

From newsprint to printing is only one further step. New printing presses installed recently in a large Ontario establishment are the most modern in the world. Some of the presses will be turning out 3,000 single

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(1) Statement by the Right Honourable C.D. Howe, Minister of Trade and Commerce, House of Commons Debates, June 25, 1948, p. 5845.

colour sheets per hour, a rate more than twice that of the machines they replaced. Other giant seven-colour presses will turn out 40-page magazines at the rate of 400,000 pages an hour, twelve times the present rate of black and white pages.

From here the list could go on to mention many new wonders of output increases achieved by better and larger machines coming into operation. Some measure of the total impact on output from the capital expenditure program under way in the post-war period can be gleaned from a special survey.(1) This survey suggests that a selected group of companies undertaking post-war plant reconversion, expansion and modernization, for which records are available for both the pre-war period and the post-war period, expect to turn out one year after the completion of their investment projects two and a half times as much in value terms and about one and three-quarter times as much in volume terms as they did in 1939.

2. Improved Quality. War-engendered scarcities, depletion of skilled labour force in some industries and deterioration of machinery and equipment which were not replaced in the 'thirties because of the dim business outlook and could not be replaced during the war because of shortages, were mainly responsible for lower quality of many types of goods. When the war ended much effort was being devoted by far sighted business men to improving the quality of their products in anticipation of a return to competitive markets. In the last three years improvements in quality have been noted in many items where substitute materials could be replaced by better raw materials and where new equipment made faulty workmanship less likely or more easily detected. Such improvements in quality have been more notable in lines where supply appeared to be catching up with demand rather than in fields of continuing shortages. Improvements in the quality of commodities range over a wide variety of articles from textiles to frozen fish. Improved quality of services to be rendered was also the purpose of much investment made by commercial and service establishments, from dry cleaners to self-service markets, from cafeterias to public transportation companies.

3. Expanded Exports. In a world where the outlook for multi-

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(1) Encouragement to Industrial Expansion in Canada, Operation of Special Depreciation Provisions, November 10, 1944 - March 31, 1949, Department Reconstruction and Supply, Ottawa, 1948, pp.52 ff.

lateral trading is at best an uncertain long term prospect, it is encouraging to observe that many firms have succeeded - at least temporarily - in increasing their exports from Canada to other countries not only of traditional export commodities such as base metals, lumber and newsprint, but also of a variety of manufactured commodities formerly not produced in Canada or not exported from Canada. The export programs of a number of recently established or expanded manufacturing plants in Canada indicate two noteworthy developments: (a) Canadian manufacturers are producing a number of commodities as efficiently as their counterparts in the United States and in many instances are able to sell these commodities on a competitive basis in the United States. Such commodities include noiseless typewriters, stainless steel equipment and hollow ware, acetylene black and baby carriages. (b) Canadian manufacturers are able to compete with the United States in other markets as long as the sum of their domestic and foreign markets provides them with a sufficient demand to reach the point of most economical operations. Commodities which foreign customers are now buying or offering to buy from Canada and which they used to buy from the United States include optical goods, electrical heating elements, high carbon drill bits, and automatic washing machines.

In view of the international uncertainties of world trading, Canadian business men are realistic enough to base their operations largely on an expanded domestic market. The expansion of exports is given as the fourth most important reason by manufacturers currently engaged in expanding and modernizing their plant and equipment. Other reasons preceding it are: (a) replacement of foreign imports, (b) reduction of unit cost and improvement of competitive position, and (c) more intensive use of Canadian natural resources.

A canvass of a selected group of companies about their export prospects in the post-war period indicated that as a result of the post-war investment program under way they hoped once the program was completed to increase their exports by more than three and a half times the value of their shipments abroad in 1939, or about two and a half times in volume.(1) But

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(1) Encouragement to Industrial Expansion in Canada, op. cit. p. 53.

the slow world recovery since 1945, coupled with the expanding network of import and exchange restrictions being woven around most countries, have made the achievement of these targets increasingly difficult. The most hopeful sign in this direction is the endeavour of Canadian business men to improve the efficiency of their operations in order to remain competitors in world markets, and the dogged insistence of Canada and other kindred nations in working towards the freeing of international trade.

4. New Employment Opportunities. Quite apart from the temporary employment provided by the purchase of capital goods, the use of the capital goods has long term employment effects which continue as long as the capital goods remain in use. As Summary Table 55 shows, these employment effects will vary depending on the type of industry and the products made. Capital expenditures on new plant and equipment of $1 million may mean an average annual employment of close to 100 men in the chemical and allied industries such as fertilizer plants and soap factories, but more than a thousand persons in the vegetable and animal products non-food industries such as cigar factories, tanneries and leathercraft industries. The average annual employment resulting from $1 million investment in manufacturing plant and equipment in the immediate post-war period is estimated at 266. Looking at the overall effect of the business capital expenditure program the special survey referred to earlier suggests a doubling of the labour force in manufacturing industries as compared with pre-war, and significant overall increases in other non-agricultural sectors.(1)

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(1) Encouragement to Industrial Expansion in Canada, op. cit., p. 54.

SUMMARY TABLE 55 - EMPLOYMENT ANTICIPATED PER $ 1 MILLION CAPITAL EXPENDITURE FOR NEW MANUFACTURING PLANTS, BY TYPE OF INDUSTRY, CANADA, 1944 - 1949

Type of Industry	Average Number of Employees Anticipated
Vegetable and Animal Products - Food	441
Vegetable and Animal Products - Non-Food	1,329(1)
Textile	558
Wood and Paper Products	176
Iron and Its Products	511
Non-Ferrous Metals	216
Electrical Equipment	238
Non-Metallic Mineral Products	134
Chemicals and Allied Products	98
Miscellaneous Manufacturing Products	388
Total Manufacturing Industries	266

Source: See Table XV in Appendix A.
(1) High Average employment in this group is mainly due to relatively small capital requirements in some segments of the leather and leather goods industries.

5. Industrial Diversification. A large measure of industrial diversification is accompanying the process of conversion, modernization and expansion of Canadian factories. Over 200 new products formerly imported are now being produced in Canada. These include various types of heavy machinery and equipment such as special types of pulp mill machinery, road building equipment, self-propelled coal, sand and gravel conveyors, milling machines, oil-well equipment, heavy agricultural implement machinery, large diesel engines and inter-city buses; new types of textile products such as impregnated fabrics, jute and hemp yarns, cotton gabardine products and tocked coil ropes; wood and paper products, including new varieties of paper, new kinds of furniture, particularly made from plywood, insulation materials and prefabricated houses; chemicals and allied products such as streptomycin, copper sulphate, styron, sodium carbory methyl cellulose, new types of synthetic lacquers, paints and enamels; and a host of other products such as

light machinery and equipment, tools, electrical and cooking equipment, heating and plumbing fixtures, medical and scientific instruments, refrigerators, cordless electric irons, and new types of leather and leather goods. New processes are also being developed. For example, a western chemical company intends to extract starch and glucose from wheat, while an Ontario company plans to make medicine almost entirely from raw materials originating from other Canadian firms. This industrial diversification has a dual meaning. First, a larger portion of capital goods required are now being manufactured from Canadian materials and with Canadian labour. Second, a large variety of new types of consumer goods, for the first time produced in Canada, is coming on to the market to satisfy the manifold needs of the general buying public.

Industrial diversification, however, means more than the production of new goods for Canada. A large number of established companies have expanded the types of articles that they had been producing formerly in order to reduce the vulnerability of their enterprise to changes in demand and consumers taste for particular types of commodities. In other instances, companies have started to turn out new products designed to integrate their production process. In some cases this involves materials or supplies required for the production of the main commodities, in others it involves turning out new goods that use waste materials resulting from primary production processes. To give a few examples of companies that show a diversification of production within their units: a firm formerly producing only refrigeration equipment expanded to manufacture air-conditioning equipment, steam boilers and steel parts and equipment; a firm producing threshing machines and similar implements expanded to produce industrial boilers, rock crushers, rubber, plastic and ceramic moulds and turbine motors and air compressors; a firm formerly producing washing machines extended its production to include ironing machines, electrical appliances and air circulators; a newsprint company in Ontario went into distilling industrial alcohol required in its production process; a British Columbia pulp and paper company started producing new plastic products from waste pulp. These are just a few examples of the many instances in which firms are endeavouring to improve their business outlook for the future by strengthening their industrial operations through increased diversification of production.

Diversification of Canadian industry also achieved significance in the geographic sense. Large as well as small communities shared in the plant expansion program. The special survey mentioned above indicated that of a total of 1,174 new plants to be constructed, 676 were expected to be situated in the 24 largest urban centres in Canada with population of over 30,000, 96 plants in medium size cities and towns with population between 10,000 and 30,000, and 402 plants in smaller communities with population of less than 10,000.(1)

Another special aspect of the process of industrial diversification is the impetus given by branch plant development in Canada. Some 2,000 American plants and some 500 British branch plants and affiliated businesses are now established in Canada. Capital investment in these branch industries is believed to be close to the $3 billion mark. In the inter-war period most of these plants were established in Canada by American parent companies to take advantage of the favourable export situation presented by British Empire preferences and to supply the Canadian market. Since the end of the war, with some of these preferences no longer in force the main reasons for the development, which includes the establishment of many British branch plants, are availability of resources, low cost hydro power, and stable labour conditions. In addition to these branch plants, new business enterprises opened up by immigrant entrepreneurs have meant the bringing in of new skills and processes and have led to the manufacture of many goods which formerly were not produced in Canada, or the use of resources formerly not used. Examples of this kind are the selective utilization of the former weed wood "western hemlock" for the manufacture of box shooks, flooring and lumber, the production of wool tops, the manufacture of special hydraulic equipment, refueling pumps and many other intricate parts for aircraft, the production of precision instruments, tennis racquets, china artware from Canadian clays, and new flax commodities.(2)

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(1) Encouragement to Industrial Expansion in Canada, op. cit. p. 55-56.
(2) For a summary of the contribution of branch plants and immigrant industries to industrial diversification, see Canadian Branch Plants Help to Build Better Trade Balance, Foreign Trade, Department of Trade and Commerce, Ottawa, November 13, 1948, pp. 964-967.

6. Greater Utilization of Canadian Resources. Industrial investment expenditures in the post-war period providing new or improved facilities for making better and more effective use of Canadian natural resources utilise in many instances materials which were formerly considered waste or whose processing had to be done abroad and the finished product brought back to Canada. To illustrate: an Ontario company recently completed a half million dollar project which will be used to process slag wax from a nearby refinery. This wax waste, the bulk of which was formerly shipped to the United States, can now be refined to chemically pure paraffin wax and sold in Canada to replace all former import requirements. The remainder of the output of this plant, approximately 90 per cent, will find a ready market in the United States. New wood products have recently been evolved from by-product liquors which were formerly waste. One of particular interest is "arborite", a lignosulphite laminated plastic, which is particularly durable and is already serving many useful commercial purposes. This product, together with many others, has been recovered from materials which were previously thrown away and has been made available in qualities which were formerly unknown. Installation of new machinery made the output of these commodities possible with the employment of little additional labour. A new Kraft mill in British Columbia presently being installed will soon be producing 400 tons of Kraft a day from slabs and edgings which were formerly burned at the lumber mills.

The effect of this greater utilization of Canadian resources has been the production of many commodities for whose supply Canada traditionally depended on imports. Goods completely produced in this country but formerly brought in from abroad range from jet engines to tapered roller bearings, from vinyl sheeting to lace, from two-speed differentials to Pyrex nursing bottles, from ethylene glycol to food extracts. In other commodities produced in this country, manufacturers have been able to achieve substantial reductions of the import content, for example, one firm reduced the import content of a radio from $17 to $1.35 and another for refrigerators from $70 to $36.

The great emphasis of the business investment program currently under way on the development of secondary industries which make more efficient and effective use of domestic natural resources is indicated by the fact that this is the main reason given for making a large portion of current investment expenditures on plant and equipment. Of a total of 327 new projects of

industrial expansion which require imports of capital goods controlled under Schedule III of the Emergency Exchange Conservation Act, business men give the replacement of foreign imports as their main reason (101 projects), with other important reasons including the more intensive use of Canadian natural resources (53 projects) and the production of commodities new to Canada (23 projects) (see Summary Table 56).

SUMMARY TABLE 56. - IMPORTS OF CAPITAL GOODS FOR INVESTMENT PROJECTS CONTROLLED UNDER SCHEDULE III, EMERGENCY EXCHANGE CONSERVATION ACT: NOVEMBER, 1947, - OCTOBER, 1948.

Rank	Chief Reason of Essentiality	Number	Total Capital Cost $millions	Value of Capital Goods Imports Requested $ millions
1.	Replacement of Foreign Imports	101	99.8	30.7
2.	Reduction of Unit Costs and Improvement of Competitive Position	59	39.3	14.4
3.	More Intensive Use of Canadian Natural Resources	53	140.7	30.3
4.	Expansion of Exports	51	103.7	18.2
5.	Maintenance of Essential Public Service	27	416.2(1)	44.2
6.	Production of Commodities New to Canada	23	44.5	9.3
7.	Other Reasons	25	47.4	6.9
	Total	339(2)	891.6	154.0

Source: Special compilation by Economic Research Branch, Department of Reconstruction and Supply.

(1) Of these projects by far the largest is the five year Ontario Hydro development program.
(2) This figure is slightly higher than the number of projects (327) because in a few projects two economic reasons were given.

7. Increased Efficiency. A great deal of interest and concern has centred in the post-war period around the problem of how to increase efficiency of both management and labour. This problem in some measure had its origin in the developments of the war years when the Canadian economy was being geared to a maximum industrial effort, and in so doing many aspects of inefficient operations became more clearly apparent and had to be met to achieve peak production. When peace came in 1945 this problem continued to remain uppermost in the minds of business and governments. For it was realized that in a competitive world the efficiency of its industry was vital to the Canadian

position as both an importer and an exporter. In fact, the real standard of living to be achieved in the post-war years depended on the relative efficiency, vision and enterprise of Canadian management and labour.

While there were numerous approaches possible to achieve a target of continuously increasing industrial efficiency, and many were tried, the increased and improved mechanization of Canadian industry was considered to rank high among the means adopted. Unfortunately the problem of measuring increasing efficiency - particularly the allocation of increased output per man hour among investment, increased labour skill, improved management - makes it difficult in the present stage of economic knowledge to express in quantitative terms national changes that are taking place. From preliminary evidence available at present it appears that productivity of the nation as a whole has been increasing at a rate of about 2 per cent per annum in the last two decades of peacetime endeavour. This increase is in line with similar developments in the United States and the United Kingdom. With regard to the specific situation faced in the post-war period, the following observations may be appropriate.

Increased productivity of the non-agricultural sector of the Canadian economy - agriculture is a special problem and is referred to separately below- has been considered disappointing in the post-war period when looked at in national terms, although it has proven spectacular in individual instances of installing new types of machinery and equipment. There are three main reasons for this.

(a) A large part of the investment program in the early post-war period was devoted to making good capital deficiencies of the past and to replacing outmoded plant and equipment. The main purpose of this type of investment was to prevent further declines in productivity and if possible to return at least to higher pre-war levels of efficiency. Only as this process of making good wear and tear was replaced by concentration on greater modernization and mechanization could a significant increase in efficiency be expected.

(b) Technological developments alone, however, do not bring increased efficiency. In fact, untrained workers, particularly in the low paying industries that do not attract skilled men, large labour turnover and a certain amount of

absenteeism have been factors offsetting the increased efficiency that could have been achieved had it been possible to match competent workers with the modern machines becoming available.

(c) Some of the investment program of the first three post-war years has already yielded results in increasing output per man hour (1) but much of the improvement is still a matter for the future. New machinery requires new skills of the labour force and more experience on the part of management on how to make the most productive use of new installations. Many of the smaller plants take a year or two before they can reach peak output after installations are completed and operating. Larger and more complicated plants may take several years. It should be remembered that it was not until 1943, the fourth year of the war, that Canada, after much experimentation, was hitting peak industrial output for military purposes. If the parallel has any meaning at all, Canada should be reaching high levels of production in most fields in 1949. Once that peak is reached it will not be surprising to find that many of the backlogs that exist today may disappear sooner than present rates of production might indicate.

The national preoccupation with increased efficiency of business operations is reflected by the fact that two out of every three entrepreneurs making capital expenditures in the post-war period are hopeful of being able to achieve a reduction in the number of man hours used per unit of output. "The effect of labour-saving devices," as a survey made in the post-war period points out, "is to use the manpower thus saved for expanded production

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(1) A few examples from actual business experience in 1948 are illuminating on this point: (a) A lumber company installed in their planing mills three new machines which handle the stacking of lumber. These machines proved a great help in speeding up the distribution of the firm's product. The cash outlay was in the neighbourhood of $18,000 which made it possible to reduce the staff by 45 men. However, the prime purpose of installing this equipment was to speed up distribution rather than to reduce staff. (b) A paint and varnish manufacturer reported that in the paint and varnish industry supply has caught up with demand. This was to be expected, in view of the fact that the industry, with new machinery and improved techniques, has increased the speed of many operations two or three times with a resulting increase in production. (c) A machinery producer had reduced the level of employment in his firm by 10 per cent during the past year with further moderate declines expected while still keeping output high. This was made possible as a result of increased productivity following technological improvements and the availability of more efficient workers. A time study program showed that productivity is improving, with the output of some machines being up by as much as 50 per cent.

and shorter working hours. As long as the present period of strong consumer demand continues there is no indication that in manufacturing industry as a whole 'surplus' labour would be laid off."[1]

Increased efficiency in the agricultural sector of the economy is a special problem because of the great vagaries of the elements and other natural causes, rain, drought, floods and insects, which affect this industry. However, a brief observation of the trend towards greater mechanization and increased output with lower manpower input may be appropriately made in this connection.

Mechanization of Canadian agriculture is a process that was speeded up considerably after World War I. The number of horses in Canada reached an all-time peak in 1921 and has been declining ever since, with horsepower being replaced by motorpower. Tractors in use in Canada in 1921 numbered 47,000, were up to 105,000 in 1931, and rose further - in spite of low farm incomes in the 'thirties - to 160,000 in 1941. Currently the number of tractors in use is approaching the 250,000 mark. In this period other types of mechanical equipment used by farmers have also increased notably, including grain combines, improved farm tillage equipment and electric motors.[2]

As a result of mechanization, agriculture has been able during World War II and also in the immediate post-war period to turn out more agricultural produce with fewer men. Many of the men freed from agricultural work joined the armed forces or went into war work during World War II. Since the end of the war, most of these men either stayed on in non-agricultural work, or took up industrial or service jobs if they were returning from military service. The current agricultural working force of 1.1 million is moderately above the war level of about a million but below the 1939 level of approximately 1.2 million. Current agricultural output, however, is considerably greater than it was in 1939.

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(1) Encouragement to Industrial Expansion in Canada, op. cit. p. 56.
(2) For a summary of factual data see A Statistical Analysis of Farm Mechanization in Canada, by H.L. Patterson, Agricultural Institute Review, Ottawa, March, 1947, pp. 87 ff.

8. Improved Working Conditions. The companion development of increases in efficiency is the improvement of working conditions. In some measure it has a direct bearing on efficiency of the labour force since it contributes to better management-labour relations, a more contented labour force, and stabler employment conditions. Of business enterprises making capital expenditures in the post-war period, seven out of every ten expect to provide improved working conditions for their employees.(1)

9. Impact on Prices. With the cost of living index up 55 per cent between 1939 and mid-1948, the general wholesale price index up 102 per cent, and the general wage rate index up 94 per cent, it may at first glance be surprising to find that prices in some commodities - although uncontrolled - have either remained unchanged (e.g., soft drinks - except for sales tax added) or have risen much less than the general price, wage and cost indices suggest (e.g., certain textiles, drugs, chemicals, paints). One explanation for this is that increases of cost due to rises in prices of materials and labour have in certain lines either in part or in full been offset by improved operating methods, the introduction of new processes, the use of modern machinery and equipment and more intensive use of resources. This rise in real efficiency has proven a significant counterbalancing factor to increased prices for the factors of production. But for this increase in real efficiency which has occurred, the prices of many products would be much higher than they are today. To illustrate some of the achievements: one of Canada's largest primary textile producers has been able to keep the average price increases of its products in 1948 at about 30 per cent above pre-war although most cost items have increased by over 100 per cent. The reasons given are: (a) increased mechanical efficiency, and (b) greater utilization of plant capacity.

Another textile firm, a major producer of yarns and fabrics, has recently been able to announce a reduction of about 10 per cent in the price of their acetate rayon yarns. This is in spite of the fact that the firm has granted wage increases to their employees and has made a large capital outlay to expand their plant and equipment. The price reduction was made possible as a result of increased efficiency in over-all business operations

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(1) Encouragement to Industrial Expansion in Canada, op. cit. p. 56.

to which management, labour and capital each made an important contribution.

Improvement in quality and increased efficiency, resulting in price increases at a slower rate than cost increases, have also occurred in the food industries. For example, the completion of a new plant has enabled a manufacturer of canned foods to turn out a purer product whose price has risen 31 per cent since 1945, in spite of the fact that labour cost went up 75 per cent and raw material cost up 35 per cent. Here is another of many instances of companies passing on to the consumer some of the benefits obtained from capital investment.

The consumer who complains about high prices in 1948 is often not aware of the price sensitivity of the far-sighted business man. Few business men who cater to the needs of the consumer have forgotten the days of the 'thirties when selling was a real effort and price was a major factor. It is therefore not surprising to find that this price consciousness of Canadian business is becoming a nation-wide affair. As the survey referred to earlier suggests, two out of three businessmen making capital expenditures in the post-war period anticipate achieving a reduction in real terms of the unit cost of their product.(1) The importance of this goes beyond the improvement expected in the future. The knowledge of the businessman that increased investment and production operations will yield more plentiful supplies at lower real costs in the not-too-distant future may act as a deterrent to raising prices to too high levels in days of scarcities before the capital expansion program has started to pay off. The problem of not pricing oneself out of the market is one that the far-sighted businessman, particularly if he caters to consumer needs, will always want to keep in mind when markets are expanding and prices rising.

Significance of Government Investment

Government investment defined broadly transcends in some measure the classification of the impact attempted here - business, government and consumer - because some of this investment is of a business type (e.g., the building of a radio station for a national network is very much akin to the building of a commercial radio station), while other types of investment (e.g., housing) are more akin to consumer investment in the form of new building for home owners.

Bearing in mind that what has been said about business investment

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(1) Ibid., p. 57.

applies also to government investment serving a business purpose and what is said below about housing applies to Government efforts in this field, Government investment activity as a whole is designed to serve primarily two purposes:

1. To provide public facilities essential to an efficient functioning of the economy, including those associated with the protective functions of Government (e.g., justice, police, and military) and service functions (e.g., public administration and communal facilities).

2. To provide public facilities which will contribute to economic development of the country and social betterment of the people. This is a function which has been coming more to the fore in the last decade or so with the greater emphasis being placed on natural resources development - agricultural land, forests, mines, fisheries and electric power - and on social betterment as reflected particularly in improved standards of health and housing.

In the post-war period the Federal Government has been emphasizing the need for keeping Government investment down in the light of the large expansion of private investment activity (see Section VI). In view of this attitude Government investment except in the housing field has had a considerably smaller impact on the economy than private investment. In fact, Government investment that has taken place has largely centred around the maintenance of essential public facilities and comparatively little new net additions have taken place.(1)

Significance of Investment for the Consumer

Investment is significant for the consumer in two respects: (a) immediate benefits through housebuilding for a large part of which the consumer is directly responsible, and (b) future benefits which the consumer may derive from business and Government investment.

Housing. Two out of three housing units currently built are occupied by home owners. The third unit is either a business proposition (e.g., rental dwelling in a private apartment building) or a contribution of

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(1) There are exceptions to this in a few other sectors, particularly the health field, where a number of new hospitals were built or existing ones expanded to take care of veterans' needs. More recently a new Federal plan has been announced to encourage provincial hospital construction (see statement by the Prime Minister, the Right Honourable W.L. Mackenzie King, House of Commons Debates, May 14, 1948, pp. 3931 ff.)

Government to the social problem of housing (e.g., low rental housing projects for veterans). Because this report is only concerned with the broad aspects of the contribution which residential investment is currently making to the economy as a whole, these three types of housing are treated as a whole.

It has been noted earlier in the report that the number of houses built in 1947 and 1948 was the largest number ever built in any two years in Canada. How has this affected the consumer, particularly the many thousands of new and old families which have been hard-pressed in finding suitable housing accommodation in the post-war period? Reference to the housing backlog has been made earlier (see Section II), and housing needs and what the Government has done about them are discussed later (see Section VI). Here some evidence is desired as to how housing accomplishments actually achieved have met consumer needs. As Summary Table 57 shows, Canada is currently building almost twice as many units as she did in 1939. Even if account is taken of changes in population, the accomplishments of 1948 - 6.3 units per thousand population - are still considerably above the 4.3 units per thousand built in 1939. But the crux of the matter has not been population increases alone but what is called in technical language "net family formation", that is, the number of new families formed minus the number of existing families dissolved in any one year. Because of the high marriage rate in the war and post-war years and more lately the stepped-up rate of immigration, the number of new families formed in Canada has increased substantially in the last decade. The current rate of family formation is over 50 per cent greater than it was before the war. Only in the last two years has the rate of housebuilding caught up with new families formed. Since the majority of these new families are looking for housing accommodation the present rate of housebuilding, remarkable as it has been as an industrial accomplishment, has done little so far to reduce the aggregate pressure for added and improved housing accommodation built up during the depressed 'thirties and the war period of the 'forties.

SUMMARY TABLE 57. - POPULATION, NET FAMILY FORMATION AND DWELLINGS BUILT, CANADA, SELECTED YEARS, 1939 - 1948

Year	Total Population	Net Family Formation Thousands	Dwellings Built Thousands	Number of Dwellings Built per 1,000 Population
1939	11,334	54	49	4.3
1945	12,229	59	49	4.0
1946	12,467	108(1)	67	5.4
1947	12,708	76	79	6.2
1948(2)	13,059	83	81	6.3

Source: Joint estimate by Economic Research Branch, Department of Reconstruction and Supply and Economuc Research Department, Central Mortgage and Housing Corporation based on data supplied by Dominion Bureau of Statistics.

(1) Including 32,000 warbride arrivals.
(2) Preliminary.

Future Benefits. Of the nine different effects enumerated above that result from business investment, the consumer is particularly concerned with and affected by three: (a) quantity, (b) quality, and (c) price. These effects of business investment, as far as the consumer is concerned, are not felt immediately a capital expenditure is made but require time to reach him. A similar situation exists for certain types of government investment.

(a) Increases of quantity of goods are of interest to the consumer at all times but particularly in times of shortages like the post-war period. Currently, in spite of substantial rises in the output of many consumer goods, some items, particularly consumer durables, are not readily obtainable. As supply of goods becomes more closely geared to demand, price distortions that may have existed would tend to disappear. "Black" or "grey" markets disappear when goods are in plentiful supply. There is another important aspect of the quantity of goods which particularly affects those consumers who are also producers. As more goods are being produced and more services being rendered as a result of better organization and increased mechanization, less effort is required per unit of output. If then the community as a whole is satisfied with an output of goods and services the creation of which requires less effort

[illegible]

than in the past, this will mean more leasure for the producers which they can devote to other than economic pursuits, e.g., culture, sports and entertainment. To put this effect into historical perspective: early Canadian settlers had to work 12 to 14 hours to make a bare livelihood; today relatively few people work more than 7 or 8 hours per day but the real standard of living has improved considerably over that of the pioneering stage of Canada's early development.

(b) Improvement (or decline) in quality of goods and services is one aspect of the changes in the standard of living that is all too frequently not reflected in general indices measuring the benefits which consumers may reap in an expanding economy making full and effective use of its resources. There is little doubt that the electric toaster which prevents toast from burning and the paint which does not peel in rainy weather are the type of advances which contribute greatly to the improvement of the real standard of living and are highly regarded by the thoughtful consumer. The fact that measurement of changes of quality is difficult should not detract from the important effect of such changes on the life of the average Canadian consumer.

(c) Changes in the prices of goods and services are a matter of vital concern to the consumer, particularly in relation to changes in his disposable income, for his purchasing power will decline if prices climb more rapidly than his income. If he wishes under such conditions to maintain the volume of his purchases he will have to draw on accumulated liquid assets or borrow in the expectation of an improvement in the situation. The two latter mentioned courses are for most families of limited practicability. If such a state of affairs continue for any length of time the effect will be a decline in the real standard of living. Conversely, if prices rise less rapidly than earnings the real standard of living will increase for most Canadians (see Section VII).

V. BUSINESS AND CONSUMER ATTITUDE TOWARDS INVESTMENT AND FINANCING OF PROGRAM

The businessman's attitude towards investment is determined by his appraisal of the economic outlook in general and the prospects for his firm in particular. It is therefore the degree of business optimism which determines largely the course of private investment. How optimistic, then, was the businessman when peace was approaching and how confident was he about the future? After a slow start in 1945,(1) a great deal of uncertainty about Canada's foreign markets and some hesitation about the course of decontrol and tax reductions, businessmen gained confidence quickly in 1946, deterred only a little by the serious strikes of summer and fall of that year, and continued in that optimistic mood until 1948 when many of them saw prosperity for several years ahead "barring a major depression in the United States" (see pp. 142-147).

How did the consumer's outlook affect his contribution to investment activity: new ownership housing? Similar to the businessman, his optimism grew as high levels of employment and income continued in the post-war period. By 1947 he was beginning to think that perhaps construction costs were not as high as he had thought in relation to his increased income. From that attitude to the decision to build a new house was only one more step. In many cases this step was taken. It was encouraged by the consideration that income and employment may continue at reasonably high levels for several years and that only a depression would bring lower costs. But since depression would in turn be accompanied by lower income, there was little to be gained by waiting. In addition to economic conditions, personal considerations of consumers such as family formation, or increased size of families accumulating shelter needs were important incentives to build. In this respect the consumer's decision to invest differed from the decision of the businessman who was primarily guided by economic considerations.

This attitude of both businessmen and consumers was chiefly responsible for the rapidly increasing demand for capital goods in the post-war period. There were, of course, many other reasons, e.g. the large backlog of urgent investment projects (see p. 142), the substantial liquid assets built up by both firms and individuals (see p. 142), and the search for greater efficiency and for improvement in the standard of living (see p. 157).

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(1) This statement should be interpreted broadly because there were some firms which had prepared post-war plans a year to a year and a half before V-J Day and which proceeded to put these into effect as soon as material and labour shortages could be overcome.

In looking at business men and consumers as a group of investors, two souls appeared to exist in the same body. As investors in plant, installations, equipment and housing, private firms and individuals displayed a great deal of confidence and optimism. As investors in financial securities, particularly in the corporate field, private firms and individuals demonstrated great caution and a lack of enthusiasm that has been the great puzzle of the last three years for most business analysts, financial advisers, bond dealers and stock brokers on the North American continent.(1)

This continent is experiencing its largest investment boom - in absolute terms - without the excesses of stock market speculation which had been the companion development of so many previous booms. It is too early to attempt to explain the reasons for this phenomenon.(2) But one aspect of the public's attitude has become apparent: It may be a slower way of increasing one's income to invest a dollar in one's own business but it is a surer way than to entrust the dollar to the vagaries of the stock market. Or looking at it from the point of view of the individual who has no opportunity to invest his savings directly in a business, there are so many things he wants to acquire (houses and other consumer durable goods) which draw on his accumulated liquid assets and on his current savings that he has little to spare for the purchase of securities. Even when he does purchase securities his caution often makes him buy low-interest-bearing Government securities in preference to corporate securities currently bringing higher return.

This attitude of caution on the part of many firms and individuals reflects the conditions of the first three post-war years with no significant change indicated for the immediate future, i.e. 1949-1950.

The Business Man's Attitude Towards Investment

The business man's attitude towards investment has two distinct aspects: (a) investment in plant, installations, machinery and equipment, and (b)

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(1) The following observation is typical of the many comments made on this subject: "The enigma of the situation is that in its colourless behaviour the stock market has been indifferent to a highly favourable environment in business and finance." The Aftermath of Two Wars, Business Letter, A.E. Ames and Co. Ltd., Toronto, March 18, 1948.

(2) Failure of the stock market to react to high levels of economic activity, profits and capital expansion, does not necessarily mean that the behaviour of the stock market on the North American continent has lost its meaning as an economic barometer. It has been suggested earlier (p. 49) that the volume of investment in relative terms - i.e. as a proportion of gross supply - was smaller in the post-war period than in the prosperous late 'twenties. It could well be that the stock market is discounting this situation, of which the layman, looking at inflated dollar figures, may not be aware.

investment in inventories.

Investment in Plant, Installations, Machinery and Equipment

After the uncertainties of 1945 the outlook for the future brightened in 1946. There came into play in this period a set of circumstances conducive to business expansion which rarely happens more than once in a generation.

1. A large backlog of productive investment projects had accumulated waiting to make good the deficiencies of a 16-year period, the depressed 'thirties and the war years. The demand included expenditures for the replacement and improvement of the existing capital structures and its expansion in line with Canadian progress of industrialization and improved real standards of living. It is thought to have been of the order of $12 billion (in 1945 prices). This would about equal the total value of goods and services produced in Canada in the year 1945, which provided for a population of almost 12 million people the second highest standard of living in the world - surpassed only by the United States. To liquidate the backlog would have meant spending over $1,000 for every man, woman and child in Canada.

2. Substantial accumulated liquid assets were available. In 1945 business and individuals held Dominion Government bonds of over $9 billion, and a significant portion of the total money supply (cash and bank deposits) of $3½ billion (see Summary Table 58). These financial resources, three times as large as those of 1939, provided sufficient liquid funds to finance almost the whole of the backlog of desirable investment projects accumulated at war's end.

SUMMARY TABLE 58 . - BUSINESS AND INDIVIDUAL HOLDINGS OF DOMINION GOVERNMENT BONDS AND MONEY SUPPLY, CANADA, SELECTED YEARS, 1939-1948.

(As at December 31 in Billions of Dollars)

Item	1939	1945	1946	1947	1948
Business(1) and Individual Holdings of Dominion Government Bonds	2.8	9.2	8.4	8.0	7.5
Money Supply	1.4	3.5	4.0	3.9	4.2
Cash	0.3	1.1	1.1	1.1	1.2
Bank Deposits	1.1	2.4	2.9	2.8	3.0

Source: Compilation based on data supplied by courtesy of the Bank of Canada.

(1) Excluding holdings by the chartered banks and life insurance companies but including small holdings of other types of financial institutions, investment dealers and some net purchases by foreigners.

3. Undistributed corporation profits were swelling the financial reserves of business firms. In 1945 60 per cent of total corporate profits

[illegible]

after taxes was retained, with the remaining 40 per cent being paid out in dividends. In 1939 the situation was the reverse, with undistributed profits comprising only 44 per cent and dividends paid out 56 per cent. This trend towards retaining a larger proportion of corporate profits for business expansion and operations continued throughout the first three post-war years (see Summary Table 59).

SUMMARY TABLE 59. - DIVIDENDS PAID OUT AND UNDISTRIBUTED CORPORATE PROFITS, CANADA, SELECTED YEARS, 1939-1948.

(In Millions of Dollars)

Item	1939	1945	1946	1947	1948
Dividends Paid Out(1)	287	250	340	408	481
Undistributed Corporate Profits	219	386	411	608	916
Total Corporate Profits after Taxes	506	636	751	1,016	1,397

Source: Compilation based on data supplied by courtesy of the Dominion Bureau of Statistics

(1) Includes charitable contributions made by corporations.

4. Total business savings increased, not only because of plowing back a larger proportion of earnings into the business, but also by increased depreciation allowances. The latter made rapid write-offs of acquisition cost of capital assets possible (see Summary Table 60). Adequate allowance for depreciation made it easier for business men to decide on scrapping existing machinery and installations where these had become obsolete and replace them with more up to date equipment. It also meant large initial write-offs for new investment at a time when earnings were high.

SUMMARY TABLE 60.- UNDISTRIBUTED CORPORATE PROFITS AND DEPRECIATION ALLOWANCES, CANADA, SELECTED YEARS, 1939-1948.
(In Millions of Dollars)

Item	1939	1945	1946	1947	1948
Undistributed Corporate Profits	219	386	411	608	916
Depreciation Allowances(1)	582	785	846	928	965
Gross Business Saving	801	1,171	1,257	1,536	1,881

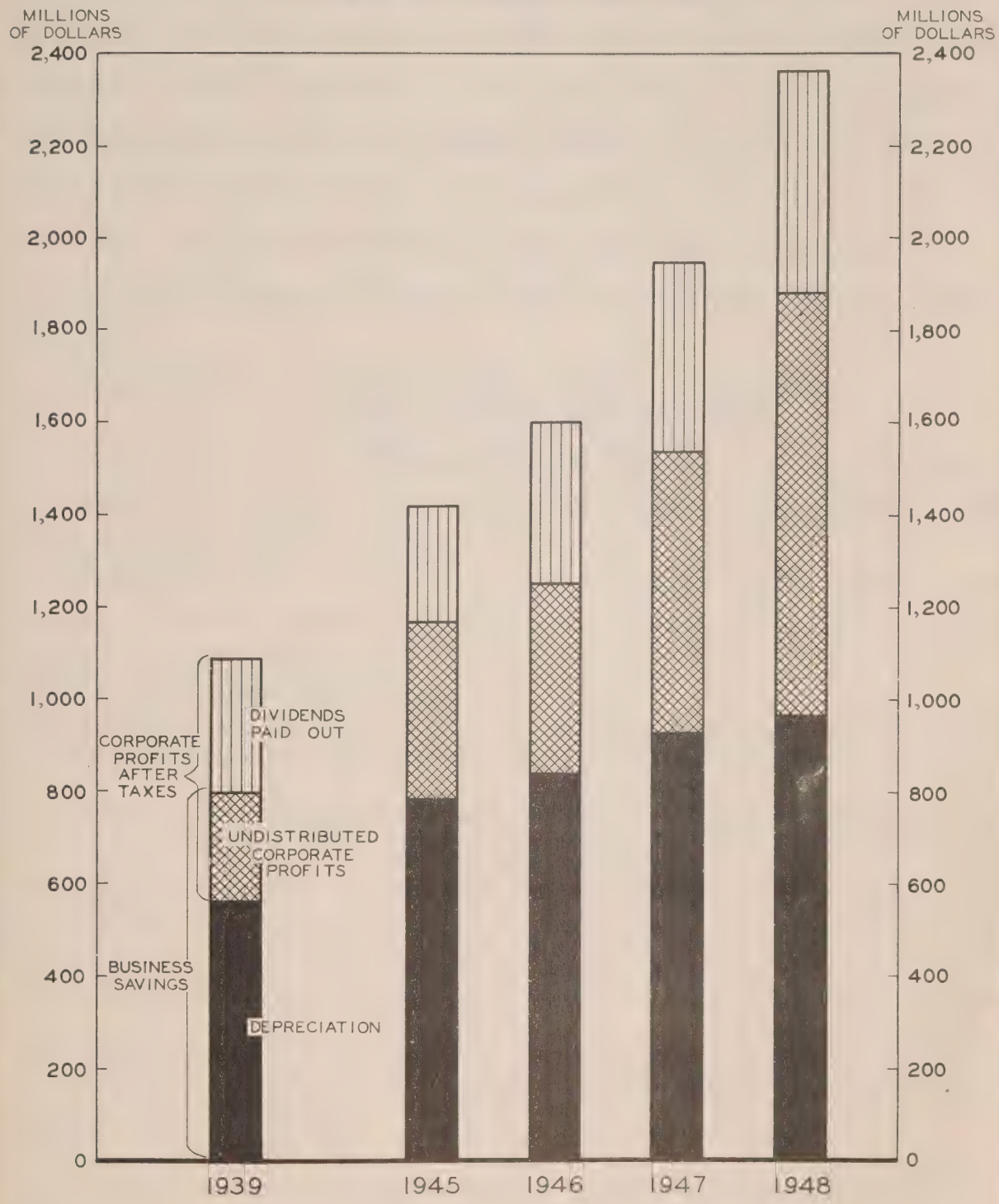
Source: Compilation based on data supplied by courtesy of the Dominion Bureau of Statistics.

(1) Depreciation allowances include depreciation on housing and farm property and equipment, as well as depreciation on corporate assets.

- FIGURE IX -

DIVIDENDS, UNDISTRIBUTED CORPORATE PROFITS AND DEPRECIATION ALLOWANCES, CANADA,

SELECTED YEARS, 1939-48.



SOURCE: SEE P. 143.

5. Conditions of borrowing had become easier. The chartered banks had more cash reserves on hand in 1945 than in 1939, and these funds were seeking investment opportunities. With the chartered banks being willing to lend for business purposes, and expanding business firms needing funds, the result was a significant increase in chartered bank loans to the public. Another encouraging feature was the low interest rate which at the end of the war had reached a level lower than that of any corresponding period. It was to decline even further, until it reached a low point in 1947 (see Summary Table 61). Lending institutions, such as life and fire insurance companies, loan and trust companies, and fraternal societies, had more funds to invest at war's end than before the war. Mortgage loans on real estate in 1945 reached the lowest point, in absolute terms, since 1926, and comprised only 17 per cent of total admitted assets, as compared with 27 per cent in 1939 (see Summary Table 62).

SUMMARY TABLE 61. - SELECTED CREDIT AND INTEREST INDICATORS, CANADA, SELECTED YEARS, 1939-1948.

(Average Month-end Figures)

Item	1939	1945	1946	1947	1948
Current Public Loans in Canada by Chartered Banks	855	1,100	1,223	1,693	1,935
Per Cent of Cash to Canadian Deposits	10.4	11.4	11.4	10.8	11.0
Dominion of Canada Bonds Payable in Canada Only, Theoretical 15-Year Bond Yield	3.16	2.93	2.61	2.57	2.92

Source: Compilation based on data supplied by courtesy of the Bank of Canada.

SUMMARY TABLE 62. - LOANS ON REAL ESTATE OUTSTANDING AND TOTAL ADMITTED ASSETS, LENDING INSTITUTIONS, CANADA, SELECTED YEARS, 1939-1947.

(Year end figures)

Item	1939	1945	1946	1947
Loans on Real Estate Outstanding(1) - ($ thousands)	602,528	501,092	556,887	657,186
Total Admitted Assets - (. thousands)	2,247,431	2,929,244	3,122,044	3,250,690
Proportion of Loans on Real Estate to Total Admitted Assets - Per Cent	26.8	17.1	17.8	20.2

Source: Compiled by the Economic Research Department, Central Mortgage and Housing Corporation, based on reports received from 123 companies covered in a monthly survey of loans on real estate approved by lending institutions. These companies account for 93% of loans on real estate outstanding for all companies of these types.

(1) Includes agreements for sale.

6. Income and excess profits taxes were high at war's end, but tax reductions had been promised,(1) and were made gradually during the first three years following the conclusion of the war. As Summary Table 63 indicates, these reductions amounted to more than one-third between 1945 and 1948 for a company with a net taxable income of $100,000.

SUMMARY TABLE 63. -INCIDENCE OF INCOME AND EXCESS PROFITS TAX ON A HYPOTHETICAL COMPANY, CANADA, 1945-1948.

Item No.	Description	1945	1946	1947	1948
1	Net Taxable Income	$100,000	$100,000	$100,000	$100,000
2	Income Tax	18,000	18,000	30,000	30,000
3	Excess Profits Tax	47,000	30,333	6,250	-
4	Gross Tax (items 2 + 3)	65,000	48,333	36,250	30,000
5	Refundable portion, E.P.T.	8,333	-	-	-
6	Net Federal tax (item 4 - 5)	56,667	48,333	36,250	30,000
7	Provincial Income Tax(1)	-	-	7,000	7,000
8	Total Federal and Provincial Tax (items 6 + 7)	56,667	48,333	43,250	37,000
9	Net Income After Taxes (item 1 - 6)	43,333	51,667	56,750	63,000

Source: Compilation based on prevailing corporation tax rates. Two assumptions are made: (a) standard profits are $50,000, (b) the company's fiscal year coincides with the calendar year.

(1) On the assumption of the company being situated in Ontario or Quebec where the provincial income tax is 7 per cent of the net taxable income. In other provinces the rate is 5 per cent.

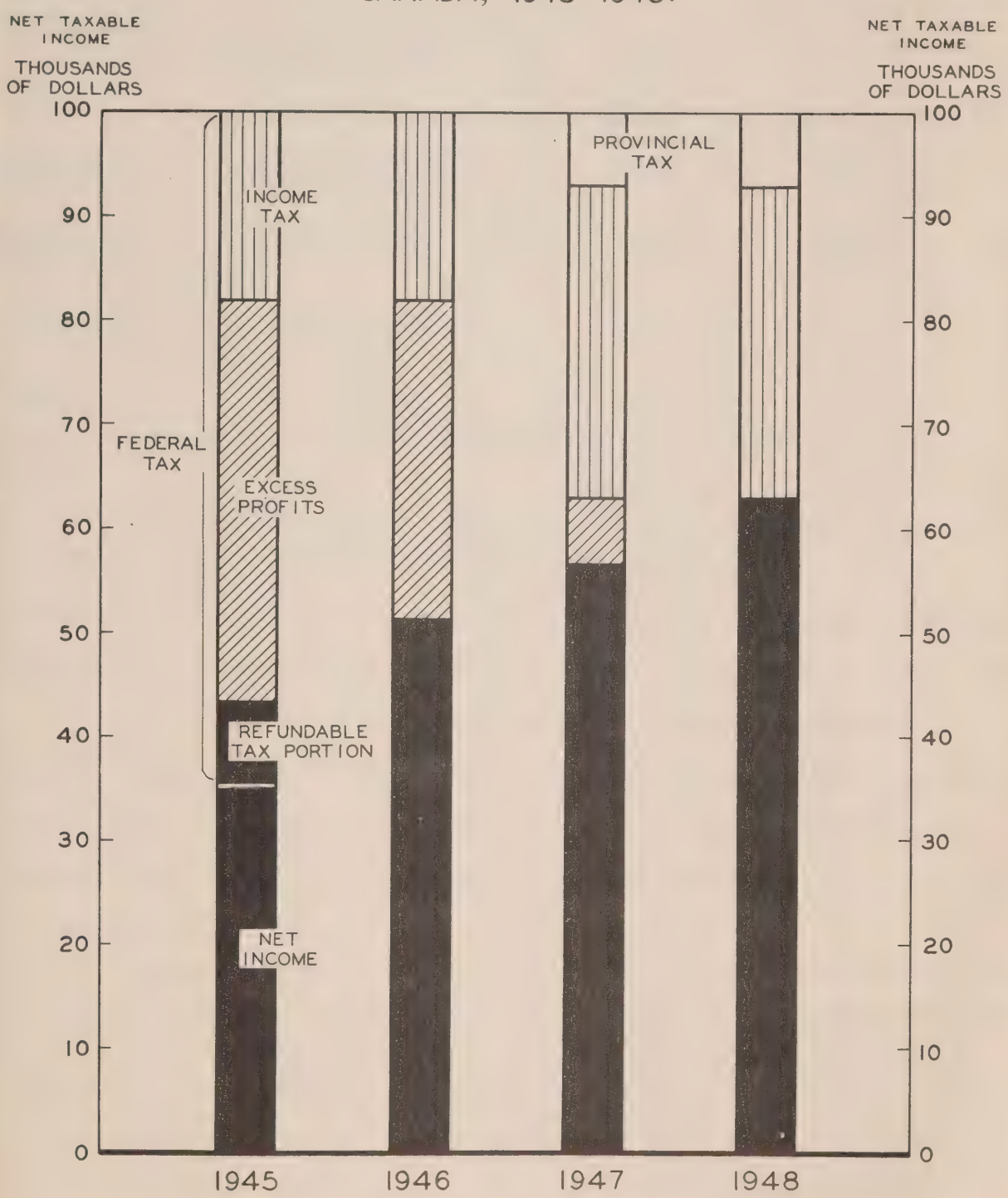
7. Uncertainties with regard to foreign markets were dispelled through a number of Government measures. Of these the two most important were: (a) credits(2) to European and Far Eastern countries(see Summary Table 64), and (b)negotiations towards increasing multilateral trading which ledtothe Geneva and

(1) "The Government proposes not only to reduce taxation as rapidly as possible, but to develop its fiscal policy so as to encourage the increase of private investment to a high and stable level." White Paper on Employment and Income, With Special Reference to the Initial Period of Reconstruction, op. cit., p. 11.
(2) In addition, substantial gifts for relief were made to other countries. In the fiscal year 1946-1947 these gifts alone amounted to about $35 million.

- FIGURE X -

INCIDENCE OF INCOME AND EXCESS PROFITS TAX ON A HYPOTHETICAL COMPANY,

CANADA, 1945-1948.



SOURCE: SEE P. 145.

SUMMARY TABLE 64.- EXPORT CREDITS TO FOREIGN COUNTRIES, CANADA, 1945-1948.

Country	Date of Agreement	Amount of Loan $ million	As of October 1, 1948	
			Actual Drawings	Balance Outstanding
United Kingdom	March 6, 1946	1,250.0	1,015.0	235.0
Belgium	Oct. 25, 1945 and May 2, 1946	100.0	67.0	33.0
China	Feb. 7, 1946	60.0	46.7	13.3
Czechoslovakia	March 1, 1945 and June 26, 1945	19.0	16.1	2.9
France	April 9, 1946	242.5	242.2	0.3
Netherlands	May 1, 1945 and Feb. 5, 1946	125.0	118.9	6.1
Netherlands Indies	Feb. 5, 1946	15.0	15.0	-
Norway	June 25, 1945 and June 6, 1946	30.0	23.3	6.7
Russia	Aug. 20, 1945	3.0	2.9	0.1
Total	-	1,844.5	1,547.1	297.4

Source: Data by courtesy of the Department of Finance.

Havana Agreements of 1947 and 1948. The most important concessions achieved promising to bring immediate returns were those obtained from the United States[1]

These forces proved strong enough to divert a large portion of Canada's resources into investment purposes, with the result that relatively fewer resources were available to meet the needs of consumers, although in absolute terms output of consumer goods continued to increase during the first two post-war years.

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(1) The following are some indications of the effect of the Geneva Agreement on Canada-United States trade, using 1939 as a basis. Of $111 million of dutiable exports, concessions on $105 million, or all but 5 per cent, were received. These concessions amounted to reductions of from 36 to 50 per cent on 60 per cent of our dutiable exports, the binding of rates on 25 per cent and intermediate concessions on the remaining 10 per cent. In addition: the United States bound as free items over $190 million out of $210 million of non-dutiable imports from Canada. As a result, all but about 7 per cent of Canadian 1939 trade with the United States would be affected favourably by the Geneva Agreements. More detailed information is available on some 160 dutiable items imported into the United States from Canada in 1939, valued at nearly $100 million, covering 90 per cent of Canadian dutiable exports to that country. At the tariff rates applicable in 1939, these imports would have paid about $18 million in duties. On the basis of the agreements reached at Geneva the customs collected would have been about $12 million, or 30 per cent less. In ad valorem terms, this represents a reduction in rates from 18 to 12 per cent.

Investment in Inventories

Many of the factors encouraging expansion of plant, installations, machinery and equipment by business enterprise were also the underlying considerations towards increasing investment in inventories. But there came into play also special forces which deserve separate mention:

(1) Total stocks had not increased significantly during the war and the pipe lines between producers, distributors and consumers were at low levels, relative to sales. In certain fields available inventories were actually inadequate for efficient business operations.

(2) The building up of inventories at all levels of production and distribution had to be pursued in line with: (a) physical limitations imposed by available resources and the pressing demand for current output, and (b) the desire of business firms to develop in a rising market a relationship between sales and inventories which would minimize the risk of loss in case of a downturn in the sales volume and prices.

The result of these considerations was to achieve a very rapid expansion of inventories in the first full year after the war, with a slower rate of increase in the second and third years (see Section I). The latter development reflects the cautious attitude of the business community not to get caught with large and high priced inventories.

The Consumer's Attitude Towards Investment

Two aspects of the consumer's attitude towards investment are important: (a) his own contribution to capital expansion through house building for home ownership, and (b) his views about business investment.

In the field of housing the need for additional living accommodation at war's end was so clearly established that there appeared to be little doubt about the consumer's attitude on this point. The clamor was for more and more houses at prices which the average Canadian family could afford. This clamor was heeded with regard to the supply of housing(1) and with the aid of special Government measures a housing program which surpassed any previous accomplishment in Canada's history got under way during 1946 to 1948 (see also Section VI).

With regard to business investment consumers views differed

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(1) Most of the new housing units provided met the needs of families in the medium and high income brackets. The clamor for low cost and low rental housing was met only to a small extent.

[illegible]

considerably. One school of thought - that was the one greatly criticizing Government's attitude towards private investment (see p.194) - held that capital expansion should proceed at a slower pace to leave a larger portion of the country's resources to meet the needs of the consumer. The other school of thought was for a reasonably rapid capital expansion as the shortest way towards increasing domestic output of consumer goods and heading off the inflationary forces prevalent in the Canadian economy. The actual events that took place in Canada suggest that a middle course was followed: encouragement to capital expansion in 1945 and 1946 and a moderate attempt to slow down the rate of expansion in 1947 and 1948 (see Section VI).

Financing of Business Investment

As a result of the conditions favourable to business expansion the large investment program undertaken in the first three post-war years was financed with comparative ease. With demand strong and financial resources plentiful, the factor determining the volume of investment in the post-war period has so far been physical limitations, as reflected by fairly general shortages of manpower and materials and specific shortages in certain basic and building materials (see Section II). The ease with which the Canadian investment program was financed in the post-war period has generally been acknowledged as the outstanding feature of the present investment boom. The second notable feature was a large reliance on domestic financing and the significantly reduced borrowing from abroad for purposes of capital expansion.

On the first point, that of little financial strain the credit facilities available were ample in the first full year after the war, and the situation changed only slightly in the next two years. In 1947 the launching of new common stock issues became more difficult although bond financing continued fairly easily. The effect on the interest rate and on credit facilities in general of the large volume of capital projects intended for 1947 and 1948 was seen with some apprehension by the financial community. As events turned out these fears proved to be unwarranted, partly as a result of the financial strength of investing business firms and individuals who had large accumulated savings in liquid form, and partly as a result of policies pursued by the Government (see Section VI). From the scanty information available it appears that of total expenditures for business capital expansion only about 15

per cent were financed through the domestic capital market in 1947(1) (see Summary Table 65) and that the proportion was slightly higher in the preceding year. The remainder of financing came mainly from the accumulated liquid assets and high current savings by business firms and individuals.

SUMMARY TABLE 65. - CORPORATE SECURITIES ISSUED, BONDS AND SHARE CAPITAL, CANADA, 1947.

Type of Issue	Corporate Bonds Issued(1)	Share Capital Issued(2)	Total Corporate Securities Issued
New Issues			
New Construction and Major Improvements	94.6	41.8	136.4
New Machinery and Equipment	38.6	0.9	39.5
Sub-total	133.2	42.7	175.9
Other Purposes(3)	113.1	48.1(4)	161.2
Total	246.3	90.8	337.1
Refunding Issues			
All Purposes	272.8	-	272.8
Grand Total(5)	519.1	90.8	609.9

Source: Special compilation by Economic Research Department, Central Mortgage and Housing Corporation.

(1) These data differ from those published by the Bank of Canada in that they relate to the date of issue instead of the date of delivery.
(2) Excluding mining shares.
(3) Includes purchases of existing land and buildings, working capital and other general operating purposes of the companies.
(4) Includes $12.9 millions for retirements of preferred stock, bank loans, bond issues, and exchange of shares in reorganization.
(5) Payable in Canada.

The following comment from a financial house is fairly representative of the thinking of the Canadian financial community as to how the "very large acquisitions of physical capital were financed with so little disturbance in our financial markets." After explaining the reasons for the large cash surplus of the Dominion government, the business letter went on to say:

"In the result over $800 millions of Dominion Government indebtedness were withdrawn in the banking system, releasing funds which the banks used

(1) Capital expansion for plant, installations and equipment by business in 1947 was estimated at $1.5 billion, while the amount financed through the domestic capital market was less than $250 million.

to acquire new securities and to extend business loans, partly of course to finance the accumulations of inventory by their customers. In addition an undisclosed amount of the Government's cash accretions were used for additional debt redemption and acquisition of Dominion of Canada securities. Through these processes funds were released into the capital market to meet part of the investment needs and, in spite of two successive reductions in Dominion bond prices in January and February, 1948, good support was available to absorb securities which corporations and individuals were obliged to sell to acquire cash

It is beyond the realm of available Canadian statistics to trace in detail the financial process by which the capital market was replenished with funds. Nevertheless, there are some sidelights of particular interest to those who follow the course of interest rates and monetary and fiscal policy.

To the extent that the heavy investment in plant and machinery was financed out of current and accumulated cash retained in business there was no drain on the capital market. Undoubtedly the cash resources of business financed much of these expenditures. For the balance, business was obliged to dispose of financial assets such as marketable securities, incur temporary loans or issue new securities. As a source of funds to absorb this financing it should be realized that the national income was twice as large in 1947 as it was in 1929, although actually the amount of personal savings in 1947 was only $768 millions which was less than half the peak of $1,676 millions in 1944. Notwithstanding the fact that Canadian business issued $328 millions of bonds and stocks the net drain on the new capital market from this source was virtually negligible by reason of the offsetting retirement of outstanding securities.

Whatever dislocation developed in the Canadian financial markets in the latter part of the year apparently came, not from burdensome offerings of new securities to finance capital expenditures and larger inventories, but from the disposal of marketable securities held in business and personal portfolios."(1)

The last mentioned observation has a bearing on the point emphasized earlier that the stock market has proven in the first three post-war years a much less sensitive barometer of business expansion than other indicators of

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(1) The Financing of Capital Expansion, Business Letter, A.E. Ames and Co. Ltd., Toronto, May 3, 1948. Some of the figures quoted have been revised subsequently by the Dominion Bureau of Statistics, but the revisions do not affect appreciably the explanations presented in this appraisal.

business optimism such as the investment program of firms and individuals. Comparing 1948 with 1939, investment in plant, installations, equipment and housing was three and a half times as large in value terms and twice as large in volume terms. Against this the index of commodity stock prices of all companies was by mid-1948 only one quarter higher than it had been in 1939 (see Summary Table 66). One segment of the stock market which reflected the buoyant demand for investment goods was the index of prices of common stocks of machinery and equipment companies which showed increases between 1939 and mid-1948 of more than twice the prices prevailing before the war.

SUMMARY TABLE 66. - INDICES OF COMMON STOCK PRICES OF MACHINERY AND EQUIPMENT COMPANIES, BUILDING MATERIAL COMPANIES AND ALL INDUSTRIAL AND TOTAL COMPANIES, CANADA, SELECTED YEARS, 1929-1948

Year	Machinery and Equipment Companies	Building Material Companies	All Industrial Companies	Total Companies
1929	- (1)	- (1)	165.9	189.7
1933	- (1)	- (1)	56.8	68.2
1939	100.0	100.0	100.0	100.0
1945	133.3	118.0	102.7	108.7
1946	182.2	152.2	119.1	126.3
1947	181.0	140.0	108.9	115.7
1948 July	232.8	141.9	121.7	127.0

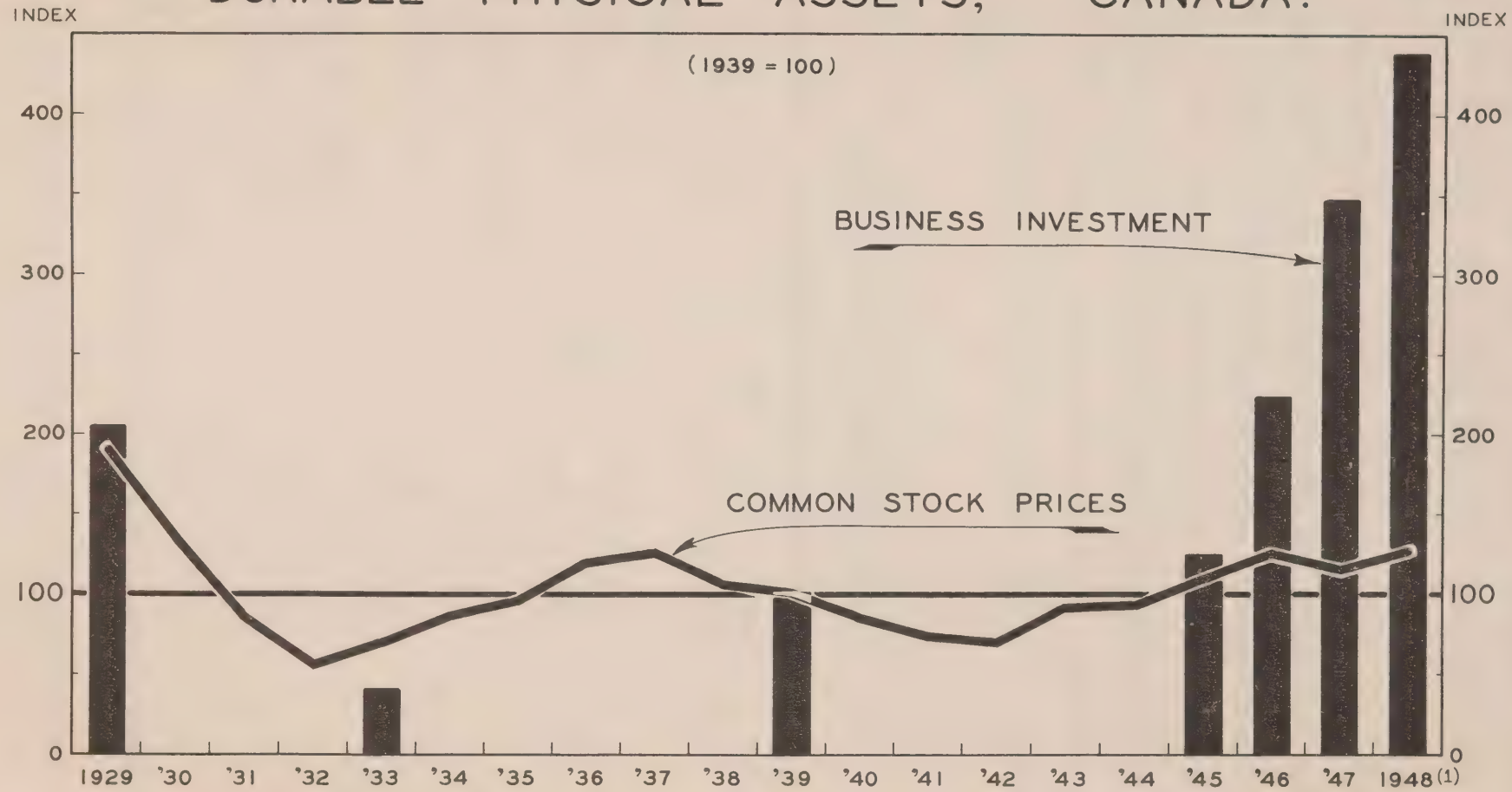
Source: Compilation based on annual and monthly issues of Prices and Price Indices. Dominion Bureau of Statistics, Ottawa.

(1) Not available.

On the second point, that of large reliance on domestic financing, the little borrowing from abroad for purposes of capital expansion has represented a complete reversal of past Canadian experience. In the 1896 - 1913 period of economic expansion the volume of investment was financed to a large extent by substantial capital inflow directed particularly to the settlement and development of Western Canada. In this period international capital movements, particularly from Great Britain, were the major source for financing economic development in Canada. During the late 1920's the amount financed by international

- FIGURE XI -

INDICES OF COMMON STOCK PRICES AND VALUE OF BUSINESS INVESTMENT IN DURABLE PHYSICAL ASSETS, CANADA.



(1) PRELIMINARY.

SOURCE: SEE PP. 34 AND 151.

capital movement was not as important as in the earlier investment boom but still represented a significant portion of capital development.(1)

On the other hand, in the years following World War II the sale of new Canadian securities abroad has not been at all significant in financing the current investment program (see Summary Table 67). The observation appears to be justified that the current high levels of investment activity were almost wholly Canadian financed, largely due to the strong international financial position which Canada had achieved at the end of the war. At that time Canada's position was firmly established as what is commonly known in economic literature as a "mature debtor" country. It meant that Canada was retiring more of her old debts than she was incurring new debts. In fact, then Canada's foreign indebtedness was continuously declining and the time when this country would change from the status of a debtor nation to a creditor nation was in sight.

SUMMARY TABLE 67. - ESTIMATED NET NEW ISSUES (+) OR RETIREMENTS (-), CANADA, SELECTED YEARS, 1939-1947.

(Par Values in Millions of Canadian Dollars)

Item	1939	1945	1946	1947
Payable in Canada Only				
Government Bonds(1)	+101	+3,503	+242	+ 83
Corporate Bonds and Stocks	+110	+ 77	+192	+245
Sub-total	+211	+3,580	+434	+328
Payable Abroad (Only or Optionally)				
Government Bonds(1)	- 82	- 70	-198	-171
Corporate Bonds and Stocks	-129	- 54	-130	-164
Sub-total	-211	- 124	-328	-335
Payable in Canada and Abroad				
Government Bonds(1)	+ 19	+3,433	+ 44	- 88
Corporate Bonds and Stocks	- 19	+ 23	+ 62	+ 81
Total	0	+3,456	+106	- 7

Source: Compilation based on data published in Bank of Canada Annual Report, 1947, p. 30.

(1) Government Bonds include Dominion direct and guaranteed bonds (excluding special banking issues), provincial and municipal bonds.

(1) Insufficient statistical data are available to make a precise statement of what portion of capital expansion was financed with foreign funds. From scanty data available it appears that more than three quarters of the investment boom of the turn of the century was financed with foreign capital, while in the 'twenties this proportion was down to about two-fifths to one-half.

Financing of the Housing Program

More than two-thirds of house building activity undertaken in the post-war period was for home ownership. More than half of the total program was financed by individuals, cooperatives and owners themselves. Accumulated liquid asset holdings by individuals during the war years was mainly responsible for the large private equity capital available. Government financing and other assistance, more significant in the post-war period than ever, was responsible for the building of about three out of ten houses. Lending institutions, partly on their own and partly with Government participation, were responsible for a similar proportion of houses. If account is taken of some overlapping between Government and lending institution financing, these two sources were contributing financial and other assistance to a little less than half of the housing program (see Summary Table 68).

SUMMARY TABLE 68. - HOUSING UNITS STARTED, BY SOURCE OF FINANCING, CANADA, 1947.

Source of Financing	Housing Units Started	
	Number	Per Cent
Direct Government Housebuilding	12,830	15.76
Government Financing of Housebuilding	11,404	14.01
Sub-total	24,234	29.77
Direct Institutional Loans(1)	14,424	17.72
Total	38,658	47.49
Individual, Cooperative and Owner Financing(2)	42,746	52.51
Grand Total	81,404	100.00

Source: Compilation based on Mortgage Lending in Canada, 1947, Central Mortgage and Housing Corporation, Ottawa, 1948.

(1) This item excludes housing units financed by lending institutions with Government guarantees or participation. The total number of units financed by lending institutions including both direct and joint financing was 25,638 or 31.73 per cent of total housing starts.
(2) This item includes a small number of housing units financed by commercial banks.

Savings and Investment

So far the analysis has been confined to attitude and behaviour towards investment of particular sectors of the economy, the business man, the consumer, and (in Section VI) the Government. The question arises as to how the inter-action of all the different forces at work affected total savings of the economy and facilitated investment as a whole.

Summary Tables 69 and 70, developed by Dominion Bureau of Statistics and first used in the Appendix to the Budget of 1948, assemble the relevant data (with latest revisions) on the source and disposition of private savings. Private savings cover gross savings, that is, the sum of personal savings and business savings. The latter are represented by retained earnings of business enterprises, either in the form of undistributed profits or depreciation allowances. The concept of gross home investment is the concept used by Dominion Bureau of Statistics to denote investment in plant, equipment and housing (excluding investment in durable physical assets undertaken directly by governments) and investment in inventories (represented by estimates of the change in value of inventory holdings(1) in all segments except for grain in commercial channels and all farm inventories). Net increases in foreign assets are estimates of the excess of privately financed exports of goods and services over imports. Government deficits or surpluses are the difference between Government expenditures and revenue (after adjustment is made for reconciliation of data in the public accounts with estimates in the national accounts). There is a residual error of estimate between the two sides, due to shortcomings in available statistics. The convention has been adopted of dividing this residual error and allocating half of it to each of the accounts. Without attaching too great statistical precision to the data because of the varying quality of the different components which make up the estimates, they are roughly indicative of how total non-government investment in durable physical assets was financed during and since the end of World War II and what part Government played.

The different items shown in Summary Tables 69 and 70 can be reduced to the simplest common denominator by the following two formulae:

A. Savings = Investment + Government Deficit

B. Savings + Government Surplus = Investment

Formula A reflects the conditions of 1939-1946, Formula B the developments of 1947-1948.

During 1939-1946 individuals and business saved more than was used at home for investment purposes. The balance was absorbed by an increase in

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(1) For qualifications attached to the estimates of inventory changes see footnote (1), p. 42, Section I.

SUMMARY TABLE 69 . - SOURCES OF PRIVATE SAVING, CANADA, SELECTED YEARS, 1939-1947.
(Millions of Dollars)

Item	1939	1944	1945	1946	1947(1)
Personal Saving	320	1,738	1,368	961	605
Undistributed Corporation Profits	219	334	386	411	608
Undistributed Wheat Board Profits	-	- 19	64	37	57
Inventory Revaluation Adjustment(2)	- 56	- 2	- 2	- 8	- 18
Depreciation Allowances	582	863	785	846	928
Residual Error of Estimate	- 10	+189	+170	- 9	-106
Total	1,055	3,103	2,771	2,238	2,074

Source: Revised data as of November 1, 1948 supplied by courtesy of the Dominion Bureau of Statistics.

(1) Preliminary.
(2) This adjustment has been made only to grain held in commercial channels.

SUMMARY TABLE 70. - DISPOSITION OF PRIVATE SAVING, CANADA, SELECTED YEARS, 1939-1947.
(Millions of Dollars)

Item	1939	1944	1945	1946	1947(1)
Gross Home Investment	881	674	565	1,788	2,884
Net Increase in Foreign Assets (including Foreign Exchange) Adjusted	123	27	683	326	17
Government Deficit (+) or Surplus (-)	42	2,591	1,694	116	-932
Residual Error of Estimate	+ 9	- 189	- 171	+ 8	+105
Total	1,055	3,103	2,771	2,238	2,074

Source: Revised data as of November 1, 1948 supplied by courtesy of the Dominion Bureau of Statistics.

(1) Preliminary.

foreign assets and by Government deficits. The former resulted in reducing some of Canada's foreign indebtedness. The latter made possible, during the war, large military expenditures, and in the immediate post-war period substantial expenses involved in the rehabilitation of returned service men and the readjustment process in turning from a war to a peacetime economy.

With this purpose largely accomplished and Government expenditures considerably reduced, a second phase was reached in 1947 in which gross home investment replaced in large part Government expenditures. This phase continued through 1948. Gross savings, instead of being devoted in part to cover Government deficits, were bolstered by Government surpluses to provide the funds required to carry out the large program of gross home investment currently under way. In 1945 gross home investment had absorbed only 20 per cent of total gross savings, while 24 per cent went into a net increase of foreign assets, and 60 per cent were absorbed by the Government deficit. In 1947, as the Government deficit turned into a surplus, the latter became the second most important factor (32 per cent) as a source of funds for the large volume of private investment. The prime source was business savings (55 per cent), while personal savings contributed only 21 per cent.(1)

The changing role of the net balance of Government expenditures and revenue deserves special emphasis. During the war years and the immediate post-war period, the Government deficit meant additional demands on the limited resources of manpower and materials and was therefore inflationary in character. Beginning in 1947, however, Government expenditures were reduced considerably without a corresponding reduction in Government revenues. The result was twofold: (a) Government demand for the resources of the country was reduced, thus eliminating some of the inflationary pressure, and (b) private gross savings, which had been declining, were bolstered to make the execution of a large investment program possible. This was accomplished by redeeming Government securities and releasing cash to the banking system, business firms and individuals to finance a significant portion of their capital expenditures and prevent a serious tightening of the money market.

A word of caution is appropriate with regard to the general observation usually made that a Government surplus is deflationary. This is broadly true insofar as the Government surplus siphons off through taxation excess purchasing power which might otherwise have added pressure on an already tight demand-supply situation. But a great deal depends also on how the surplus is used. Insofar as the retirement of the public debt provides cash for the

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(1) Percentages do not add to 100 because of the residual error contained in the estimates.

banking system, firms and individuals, and, in turn, is used to increase private capital expansion, it will assist in maintaining effective demand for the output of investment goods industries which in a period of high economic activity are usually hard-pressed.

There is another aspect of inflationary pressure of Government expenditures which does not become apparent from looking solely at a budget surplus. There may be a shift from one type of Government expenditure, say on services in adequate supply, to another type of expenditures for goods in short supply, e.g. equipment for preparedness program. In both cases the same budget surplus may be available, but Government expenditures in the second case would put pressure on prices in the sector of short supply and in this way would be more inflationary than in the first case.

The warning against oversimplification inherent in making general observations should not detract from the dominant role which Government deficits and surpluses play in establishing a balance between private savings and investment. Their importance in Canada is indicated by the fact that in the short space of three years a budget deficit of $2.6 billion (in 1944) was turned into a budget surplus of over $900 million (in 1947). During these three years private savings dropped from $3.1 billion to $2.1 billion.

Another development of significance was the varying importance of personal savings vis-a-vis business savings. When the war was drawing to a close personal savings were the most important factor contributing to the volume of gross savings, 56 per cent in 1944 and 50 per cent in 1945. By 1947 personal savings were down to 30 per cent of total and the situation appears about the same in 1948. This decline in personal savings was the result of many factors, the most important of which were: (a) new opportunities to purchase consumer durable goods, many of which had been unobtainable during the war years, and (b) the struggle to maintain in the post-war period the standard of living achieved during the war years in the light of rapidly rising prices. Business savings on the other hand continued to increase, mainly because (a) profits increased without corresponding increases in dividend payments, and (b) excess profits tax on business profits was abolished and corporate income tax rates were reduced.

What is the impact of this shift? Current personal savings have

returned to about the pre-war proportion of total private savings (32 per cent in 1939). Insofar as reduced personal savings have meant a greater diversion of earnings to purchases of consumer durable goods, this means increased demand for items which compete with capital goods for the same type of labour and materials. This shift, then, does not mean any easing of inflationary pressure on industries which produce both capital goods and consumer durable goods. Insofar as the reduction of personal savings was due to increased volume of purchases of certain non-durable consumer goods and services, there was no additional inflationary pressure on those industries where excess of demand over supply continued to be felt most strongly. These consumer sectors use labour and materials which could not be transferred to capital goods and consumer durable goods industries - e.g. a woman in a textile mill could not do a man's job in a steel mill.

As for business enterprises seeking funds for capital expansion, this shift makes it apparent that firms will have to continue to rely to a large extent on their own retained earnings to finance industrial growth in the near future. The development counsels business firms to continue with their present policy of relatively moderate dividend payments and the retention of sufficient reserves to finance out of their own resources a large part of their future expansion, modernization and replacement needs.

In looking at the present relationship of personal savings - business savings - government surpluses as sources for the current private investment boom, the precarious nature of this relationship becomes apparent. If one considers what would happen if the Government surplus were to disappear or be greatly reduced, say as a result of increased expenditures for a preparedness program, this would mean reduced resources and funds available for expenditures for private investment purposes. What effect this would have on the Canadian economy depends on whether private demand for capital goods would continue to press unabated for the limited resources at the same rate as in the last two years. If this were the case, and in the absence of a Government allocation system and price controls, prices of capital goods would be driven to heights never before reached in Canada and considered improbable at war's end. For it must be remembered that any additional demand for capital goods coming on top of the large volume of investment already achieved would be made when there is

little slack in the economic system. This conclusion, based on a broad and somewhat oversimplified analysis of the present status of the demand and supply position in Canada (and to a similar extent in the United States) is generally shared by the business and banking community, as the following comment illustrates: "The whole situation . . . has a special significance from the standpoint of the impact of possible additional demands on materials and manpower in the form of an expanded defence program and/or further aid to overseas countries. To some extent, such additional requirements may dovetail into the Canadian economy to take up slack that may appear in existing sources of demand. But looking at the picture over all, it is impossible to avoid the conclusion that further diversion of resources into defence and/or foreign aid, if of any appreciable magnitude, would necessitate important readjustments in the volume of goods and services now flowing into the satisfaction of domestic peacetime needs. The position in this regard would be quite different from that existing immediately prior to the war when a rapid and substantial expansion of production was made possible by available excess capacity. In sharp contrast, at the present time, any substantial new demands upon the resources not only of Canada, but of the Continent as a whole, would come in on top of an already tight situation in key sectors of the North American economy."(1)

At first glance this appraisal is quite convincing. There are, however, other factors to be considered. The Canadian economy is a vigorously growing economy. Industrial plants are expanding, the labour force is being augmented, and productivity is improving. As long as full use of available resources is made, an increase in the volume of output can be expected each year. Most of this additional output will be offset by increased demand for consumer goods and only a smaller portion would be available for investment purposes both for civilian and preparedness needs. The fact of the situation, however, is that the expansion of the economy will allow some increase in the level of capital expenditures. A possible decline in the volume of exports to Europe and Empire markets is another consideration that should not be overlooked. If this occurs in the next two or three years - it will if the

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(1) The Canadian Scene, Bank of Montreal, Business Review, November 22, 1948.

present plans of the sixteen European countries participating in the European Recovery Program materialize - added capacity will become available in Canada for domestic purposes.

The task ahead is not an easy one. It will require a great deal of fiscal wisdom and adequate consideration of the best allocation of the resources to steer a middle course of finding a balance between personal savings and business savings, Government surpluses or deficits, and investment, both civilian and preparedness, which would avoid extremes resulting in the one instance in shortages and inflation, or unemployment and low incomes in the other. No fixed formula exists to determine such a course and a great deal of further experimentation and study are needed. In this effort initial setbacks tending in the direction of either of the two extremes appear to be unavoidable.

VI. GOVERNMENT'S ATTITUDE TOWARDS INVESTMENT

Has the Government's attitude towards investment in the post-war period been inflationary? The answer to this question has two distinct aspects: (a) in regard to its attitude towards public investment, the answer is: no; (b) in regard to its attitude towards private investment, views as to the effect of Government policies differ widely, from one that it is distinctly inflationary and expansionist, to one that it is constructive and in line with Canada's increasing importance as an industrialized nation. The record suggests that the effect of Government policies lies between these two extremes. The evidence appraised later supports the conclusion that the Government's attitude towards private investment in the immediate post-war period was inflationary and in the later part mildly deflationary.

The fact that the Government's policies have been different in the two large segments of the investment field counsels the appraisal of the Government's attitude towards public investment separately from its attitude towards private investment. There is a great deal of interaction between the two segments. Frequently public projects are undertaken at the insistence of national, regional or local groups of citizens. In other instances, private investment projects are initiated by business firms or individuals as a result of encouragement by Government through fiscal and other devices. In their effects, private and public investment have many similar characteristics, for both types of expenditures affect similar resources of the country: construction and building material industries, machinery and equipment and related industries.

As far as the volume of investment activity is concerned, both private and public investment, before World War II, followed broadly similar trends, although differing significantly in the degree of fluctuations which occurred (see p. 33). However, the emphasis on investment as a whole as a factor in maintaining high levels of employment and income, which has become accepted Government doctrine in the last four years, has brought out a new relationship between private and public investment: public investment complements private investment, and should therefore vary inversely to the volume of private investment. The application of this doctrine, which for the first time is being tested in the expansionist period since 1945, would mean keeping public investment low when private investment is high and making large governmental capital expenditures

when business and individual capital expenditures decline greatly.

The changes in the Government's attitude towards private and public investment is discussed broadly in the sections which follow, for three different periods: (1) the pre-war period (before 1939), (2) World War II (1939-1945), and (3) the post-war period (1945-1948).

Government's Attitude Towards Investment in the Pre-War Period

The guiding principle in making public capital expenditures before the war was to create in the Canadian economy the transportation, power and related facilities to match the industrial and commercial expansion of the country which in the earlier period concentrated in the field of primary resources, and since the end of World War I developed also in secondary industries.

The trend of public investment policies can be observed by the course that Government capital expenditures took. By far the predominant item of expenditure has been the amount spent on the development of transportation facilities - canals, docks, wharves, dredging, steam railways, highways and streets. Much of the early outlay of steam railways for opening new territory was financed by public outlay either in cash or land grants and by guarantees of bonds. There was also direct expenditure on railways by both provincial and federal governments - as late as the nineteen-thirties in the case of the Hudson Bay Railway. Since shortly after the War of 1914-18 one of the great railway systems has been publicly owned. Large expenditures have been made on waterways from the early nineteenth century to the nineteen-thirties when the Welland Canal was completed.

Until the outbreak of the War of 1914-18 a large part of the expenditure on roads was local in nature and undertaken by the municipalities. The need for high standards was not great and, although street building increased the amount substantially, the outlay did not match that on waterways and railways. Beginning about 1912, with the development of motor transport, the provision of adequate provincial highways and of a better type of local road has meant greatly increased outlay on this type of project.

The other main types of public investment in the earlier period were on public buildings, on means of providing municipal services, and on public utilities other than those for transportation. The requirements for buildings were relatively greater in the early period of growth. With the expanding

population and economy there was relatively great need for new legislative and administrative buildings, new schools, new hospitals, and the other means of performing the services of the government. With the decline in the rate of growth of population and substantial conclusion of geographical and industrial extension of the frontier, these needs became less pressing than before. Governments did not enter the public utility field, aside from transportation, to any great extent until after the turn of the nineteenth century. Since then until the nineteen-thirties large outlays were made. Mention may be made of the Ontario Hydro Electric Power Company development, and government expenditure on telephone systems, particularly in the West.

The predominance of outlay on transportation in Canadian public investment is indicative of the concentration of government attention on the development of the productive capacity of the country. The opening of new territory and the attempt to make markets available to the developing industries required, in the main, the development of transportation facilities. This was particularly so in a country of Canada's size and with her distribution of resources. Further, the importance of foreign trade in which raw materials and food were exchanged for finished products exerted a double influence. The first was the attempt to connect the various parts of the country so that they would not be dealing in isolation with other countries; the second was the attempt to provide access to the seaboard for all sections.

The change in the types of public investment outlay had an important influence on the governments involved. Railway expenditure, while undertaken partly by provincial governments, was in the main the responsibility of the Dominion. Local roads, before the motor transport era, were undertaken largely by the municipalities, as was the development of community services. With the increased importance of motor transport, beginning about 1912, and the decline in the relative importance of the railways, public investment became very much more a concern of the provinces. This tendency was accelerated after the War of 1914-18 when the Dominion government ceased its policy (except in the case of the C.N.R.) of concentrating on the development of the productive assets of the country. That function in large measure was taken over by the provinces in road and highway and utility programmes.(1)

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(1) The historical description is from M.C. Urquhart, Public Investment in Canada, The Canadian Journal of Economic and Political Science, November, 1945, pp. 538-39.

The suggestion to use public investment expenditures as an economic weapon for combating low levels of employment and income has been heard on many occasions since Confederation, but it was not until the severe depression of the 'thirties that the clamor for Government action resulted in the first systematic attempt to use public investment to offset the substantial decline in private investment. The attempt lacked coordination in the earlier part of the 'thirties between the Dominion and provincial (and municipal) governments. The governments also lacked the detailed architectural and engineering plans which are necessary for such operations and were short of the engineering staff necessary to initiate and supervise any comprehensive program. It was not until 1937, when the worst of the depression was over, that a certain degree of coordination was achieved and a larger volume of public investment was forthcoming. This investment was 113 per cent higher, in monetary terms, and 89 per cent in volume terms, than the capital outlay made in 1933. The program was still below that of the preceding peak of 1930 -- 12 per cent in value terms and 7 per cent in volume terms.

Public investment policy as it took shape just before the commencement of World War II was still in an unsettled state. The main problem facing the Government of the 'thirties was how to reconcile the employment and income advantages of public projects with the selection of undertakings which would be of direct, and, if possible, immediate advantage to the economic development of the country.(1)

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(1) This searching for principles to guide the Government in its public investment policy is reflected in the following two comments, one by a Cabinet Minister and the other by a senior Government official: "On this question we reached the conclusion that of themselves public works and an increase in government payrolls did not offer an effective remedy for unemployment. We recognized at the same time that in a period of acute depression governments were justified in expanding the normal program of public works and were under an obligation to adapt such a program to the employment needs of various sections of the country. Therefore, in drawing up our estimates last year, we proceeded on the principle that in formulating a public works program for relief purposes we should select undertakings which had an intrinsic economic value to the nation and which would lead to an ultimate expansion of private employment through the development of natural resources and the tourist trade." N. McL. Rogers, Minister of Labour, address to the Canadian Club of Toronto, The Labour Gazette, Vol. XXXVII, No. 1, January, 1937, p. 27. "For it must be remembered that while Government has to and does step in in emergencies, resultant taxation, and Government competition with private industry for the supply of skilled workers may tend later in the depression period to deprive many more men of work in private industry than Government itself can hope to provide by public works expenditures." A.B. Purvis, Chairman of the National Employment Commission, address to the Canadian Club of Montreal, January, 1937, The Labour Gazette, op. cit., p. 29.

Attitude Towards Private Investment

The guiding principle of the Government's attitude towards private investment before the war was one of leaving it to private entrepreneurs to expand the capital structure of the country as rapidly as the business outlook warranted or the changing standard of living demanded. Sporadically taxation and other incentives were provided. These incentives usually took the form of tax concessions mainly to encourage investment that would contribute to the development of natural resources and the expansion of the transportation system. A more embracing provision was made in 1939, when a "capital expenditure allowance" was introduced for the purpose of expanding the investment activity by private industry. The purpose of this provision was, according to the Minister of Finance, to place Canadian industries "on the most modern and up-to-date basis, enabling them to cut costs, to compete more effectively in both the domestic and the world markets, and thereby to be in a position to maintain prosperous employment for the long-run future."(1) But on the whole the volume of private investment was dependent on private initiative. In some instances, where private undertakings resulted in failure, such as the breakdown of a number of railway companies in the early part of the twentieth century, the Government stepped in and took over these undertakings. In another field where private initiative did not provide the necessary facilities, as in the case of housing, several attempts to stimulate private construction were made before the war. But these attempts are of a more recent date and include financial assistance to private house building for ownership and rental through the Dominion Housing Act, 1935, and the National Housing Act, 1938, and repair and modernization of existing homes through the use of the Home Improvement Loans Guarantee Act, 1937.

Government's Attitude Towards Investment During World War II

When World War II broke out Canada was faced with the task of full mobilization of her resources to the successful prosecution of a world conflict This task called for a supreme effort on both the civilian and military fronts.

Surveying Canadian industrial capacity shortly after war broke out, the Government found that there was need for a substantial expansion of capacit if the large needs for military equipment and munitions of the Canadian Army an Canada's allies were to be met.

(1) Budget Speech, by the Minister of Finance, House of Commons Debates, April 25, 1939, p. 3151.

To achieve the maximum industrial effort in the prosecution of the war, three ways were open: to make full use of available capacity; to contract production of civilian goods; and to expand plant capacity for the output of specialized military equipment and munitions required. All three measures were adopted in Canada. Through various restrictive measures the productive capacity devoted to civilian goods was relatively curtailed. Through direction of labour and allocation of essential war materials to industry, production of military supplies at full capacity was made possible. Finally, the Government, partly on its own and partly in co-operation with private industry, embarked on a large program of building industrial plants designed to provide the additional industrial capacity needed to turn out a war product which at the peak was equal to a year's output of the whole Canadian economy in the 'thirties.

During World War II, some $3.5 billion were invested in plants, structures, and purchases of machinery and equipment in industries either directly or indirectly associated with the war effort. Of this sum, about half was either directly financed or assisted by Government. The Government itself spent more than $700 million on industrial investment and encouraged expenditure of another $1 billion through fiscal devices - some $500 million through special depreciation allowances and an additional $500 million through special write-off provision for tools and other small equipment items used up rapidly in the war production process. The other half of the total investment of $3.5 billion was the result of the expansion of the transportation system, electric power, warehousing facilities and other industries, particularly the primary industries producing basic materials required for the war effort.

The Dominion's direct investment program in war production facilities, involving an outlay of more than $700 million, was carried out under the war industry expansion program of the Department of Munitions and Supply. It was designed particularly to create the specialized industrial facilities required for production of munitions and military equipment which private industry was not in a position to provide. The Dominion Government kept title to the industrial structure which it created, but the operation of these plants took various forms, as indicated in Summary Table 71.

SUMMARY TABLE 71 - DIRECT GOVERNMENT INVESTMENT IN WAR PRODUCTION FACILITIES, BY FORM OF MANAGEMENT

Form of Management	Direct Government Expenditure	
	$ Mill.	Per cent
Crown plants operated by various Federal government departments	57	8
Crown companies responsible to the Department of Munitions and Supply	94	13
Crown plants operated by private firms on management fee basis	402	56
Crown-owned extensions and alterations to privately owned and operated plants	165	23
Total	718	100

Source: Disposal and Peacetime Use of Crown Plant Buildings, Department of Reconstruction and Supply, Ottawa, 1948, p. 12.

A measure of the relative importance of the Government's investment in war production facilities is provided by a comparison between employment in Crown plants and that in all war industry and in manufacturing as a whole. The 229,000 persons employed in Crown plants during the peak war production period represented approximately one-quarter of all war workers and about one-sixth of the total in all manufacturing industries.

Privately financed wartime industrial expansion was concentrated largely in those industries which were engaged in the production of basic materials, shipbuilding and automotive equipment and to only a limited extent in the gun, chemicals, ammunition and aircraft industries. On the other hand, about 40 per cent of the Government's expenditure on industrial expansion was devoted to the provision of facilities designed to produce chemicals, explosives, and ammunition, 20 per cent to gun and small arms plants, 17 per cent to industrial equipment and basic materials, 12 per cent to aircraft and only much smaller amounts on expanding shipbuilding, automotive, instrument and other munitions industries.

The direct government-financed war plant expansion program reached its peak in 1941. Investment in new buildings and in machinery and equipment by the Crown during that year amounted to approximately 204 million dollars, as indicated in Summary Table 72.

SUMMARY TABLE 72 - DIRECT GOVERNMENT EXPENDITURES ON WAR PRODUCTION FACILITIES, CANADA, 1939-1945

Year	$ Mill.
1939 - 1940	63
1941	204
1942	185
1943	184
1944	57
1945	25
Total	718

Source: Disposal and Peacetime Use of Crown Plant Buildings, Department of Reconstruction and Supply, Ottawa, 1948, p. 12.

Approximately 30 per cent or about $223 million of the total sum invested by the Government was spent on the construction of buildings and other structures designed to house war production facilities. A relatively small proportion of the expenditure involved only alterations to existing buildings and the provision of, or improvement in, heating, lighting, and comfort facilities. Since the improvements, alterations or extensions formed an integral part of the owner's plant and could not be removed economically, the title was usually vested in the contractor.

The plants built either fully or in part with public funds during the war were all erected for the purpose of adding to the capacity of war production facilities and, in the large majority of cases, the peacetime demand for the original products was found to be non-existent. However, almost five-sixths of the buildings were found to be readily adaptable to peacetime industrial use or to meet the requirements of various federal government departments and Crown companies. The remainder of the buildings consisted of non-usable capacity, and temporary structures erected to facilitate on-site shipbuilding and ship repairs.(1)

In retrospect, during the war the lines between the Government's attitudes towards public and private investment in the traditional sense were less clearly drawn than either before or after the war. The main purpose of

(1) See Disposal and Peacetime Use of Crown Plant Buildings, Department of Reconstruction and Supply, Ottawa, 1948, pp. 11 - 13.

investment during World War II was to increase the military industrial potential of the country; whether it was done with private or public funds or under private or public management became questions of secondary importance.

With the great emphasis on a maximum industrial war effort, investments serving civilian purposes, whether they were of the traditional public works type or the non-essential private investment type, like service facilities and housing, were kept to a minimum. Various means were employed to keep non-essential investment at a low level, such as construction control, allocation of scarce materials, and manpower controls.

During 1944, as favourable events brought the conclusion of hostilities in sight and production of military supplies passed its peak, the question of the peacetime use of the large industrial war structure, much of which had been built up with public assistance, came to the fore. Three groups of establishments were involved:

(1) Plants Requiring Modernization, Expansion and Minor Adjustments to Peacetime Production. - This group included: (a) plants in existence at the outbreak of the war which either in part or in full had been turned to war production without requiring much adaptation, as, for example, such light consumer goods industries as primary textiles, clothing, footwear, food, and such heavy industries as base metals, cement and abrasives; and (b) new factories or extensions to existing ones designed to produce military supplies which had peacetime counterparts of an identical or similar nature, such as plants producing rubber goods, tools and instruments, plywood and certain building materials, and basic and structural steel plants. The main problem of the older established plants, as peace approached, was one of modernization and expansion of production facilities to achieve greater efficiency and to exploit new designs and materials. New plants, on the other hand, whose facilities were up-to-date, needed only minor adjustments to cope with the changes in production techniques imposed by varying civilian demands.

(2) Plants Requiring Conversion Involving Major Adjustments to Peacetime Production. - These establishments included: (a) plants in existence at the outbreak of war which had to undergo substantial conversion to produce military equipment; and (b) plants built during the war whose peacetime usefulness after further conversion or major adaptation appeared to be assured or was likely to be affected because of their adaptability and favourable

location. Some of the latter plants were privately owned, while others were Crown-owned but were made available to industry through sale or lease. This group included plants fabricating a variety of metal products, such as munitions components, radio and communication equipment, electrical apparatus, automotive and other industrial equipment. Many problems of conversion loomed ahead of this group: liquidation of war contracts, financing of conversion, delays in the delivery of new machinery and equipment, adaptation of plant in a period characterized by shortages of building materials and manpower and by rising construction costs, selection of new peacetime commodities to be manufactured economically, and efficient organization of new production schedules.

(3) Plants Not Usable for Peacetime Production, Including those Dismantled and Kept in Reserve. - This group of special-purpose plants was designed and built during the war to mass-produce specific war materials. With the advent of peace they represented surplus capacity in their particular fields, e.g., shipbuilding and aircraft manufacture. Because of their nature and design they were, in some instances, not convertible to peacetime production. Some of the establishments, such as the chemical, explosive and ammunition-filling plants at Transcona, Manitoba, and St. Paul l'Ermite, Quebec, were of temporary construction and were considered hazardous for peacetime use. Some of the surplus plants remained in operation to supply the peacetime needs of the Canadian armed forces, and, together with others held in reserve, formed the nucleus of a munitions industry should its re-establishment become necessary. The remaining plants - and they are few in number - have been dismantled (or are in the process of being dismantled), the useful machinery and equipment and salvageable material sold, and the remainder scrapped.

It is not possible to give more than a broad indication of the extent of the conversion process involving both publicly and privately owned plants. Difficulties of measurement are great and the results that can be attained are only of limited value. Throughout the war period many of the privately owned plants combined production for civilian purpose with filling war orders. Numerous other establishments, most of which were small in size, worked as sub-contractors for large war producers, and their conversion problems, where they existed, were correspondingly minor. Any measurement of the conversion problem

in terms of the total number of plants and establishments has little meaning because a mere statement of the number of small firms or producers of part war and part civilian goods not in need of conversion, compared with the total number, would understate greatly the conversion effort undertaken by an important segment of Canadian industry.

Information is available on the conversion effort of a group of some 658 establishments engaged in war production in 1945, employing some 400,000 workers. In terms of plants only some 5 per cent were not usable for peacetime purposes either in full or in part, including those dismantled and kept in reserve (group 3 above). About 39 per cent had to undergo conversion, including major adaptation, to be usable for peacetime production (group 2 above). Of the remaining 56 per cent, about half, or 28 per cent, needed modernization and expansion of their facilities, while the other 28 per cent required minor adjustments since they represented newer plants built during the war (group 1 above).

Thus a major portion of Canada's industrial war structure was found usable for civilian purposes, although, in a number of instances, large conversion, modernization and expansion outlay was required. In terms of capital expenditures made, it is estimated that of the more than $3.5 billion spent either directly or indirectly for war purposes, some $2.2 billion worth of investment was found readily adjustable for peacetime industrial efforts.(1)

The war then, as a result of a large armament program, saw the emergence of a vastly expanded industrial structure whose continued use and full utilization became a matter of particular importance to the Government. It was realized that in the post-war period a number of problems of particular complexity in the investment field would have to be faced. A great deal of thought and effort was therefore spent on clarifying Government investment policy as it related to the immediate and long-term post-war needs of the Canadian economy.

Principles of Post-War Investment Policy

The principles of Government post-war investment policy were developed during the latter stages of the war and found their expression in two documents: The White Paper on Employment and Income with Special Reference to the Initial

(1) See Encouragement to Industrial Expansion in Canada, Operations of Special Depreciation Provisions, November 10, 1944 - March 31, 1949, Department of Reconstruction and Supply, Ottawa, 1948, pp. 14 and 15.

Period of Reconstruction (May, 1945), and the Proposals of the Government of Canada to the Provinces on the occasion of the Dominion-Provincial Conference on Reconstruction (August, 1945).

The Government's approach was an all-embracing one. One of its primary objectives was to maintain the high levels of production, income and employment achieved during the war years through the introduction of measures which would aim at stabilizing the Canadian economy.(1) This was to be accomplished within the framework of a "free enterprise" society, which was thought the best type of society to achieve higher standards of living.(2) Based on the experience gained from the fluctuations that have taken place in the Canadian economy during the last two decades, the Government's aim was said to be one of offsetting or compensating for the forces that make for extremes. To replace the large Government expenditures upon which the wartime economy was based, the Government's policy was directed toward the expansion and stabilization of expenditures having their source in "the sales made into the export market, in a rising level of consumption, in private investment for the expansion of productive facilities, and in public investment for improving the productiveness of our natural resources and the construction of useful public works."(3)

While the two above-mentioned documents laid great stress on the measures designed to avoid large fluctuations of exports and developing a floor under consumer expenditures, some specific principles as to the Government's attitude towards private and public investment were also elaborated.

In its relationship to private investment the guiding principle was to encourage private investment as much as possible within the resources available in the country. A number of measures were introduced to put this principle into effect as the war was coming to a conclusion, as described later on.

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(1) "The Government has adopted, as a major aim of Government policy, the maintenance of a high and stable level of income and employment," Budget Speech, October 12, 1945 (House of Commons Debates, p. 1002).

(2) Proposals of the Government of Canada, Dominion-Provincial Conference on Reconstruction, August, 1945, pp. 5-8. See also Radio Address by Right Hon. C.D. Howe, Minister of Reconstruction, November 20, 1945: "High employment and a high level of income must be accompanied by high standards of living. The latter calls for a high level of production."

(3) Proposals of the Government of Canada, op. cit., p. 6.

With regard to public investment, the Government stated that it was its intention to use public investment to help in ironing out fluctuations in private investment.(1) It was the declared intention of the Government to institute a system of managing its capital expenditures so that they may contribute to the maximum to the improvement and stabilization of employment and income. Because of the divided jurisdiction between the different levels of Government, it was recognized that public investment in Canada rested largely with the provincial and local authorities and that the Federal Government was only one contributor to the total public investment expenditures made in Canada. Close co-operation between the Dominion and provinces was therefore considered essential to produce a public investment program of sufficient size to be used as an instrument for moderating cyclical fluctuations.(2) The types of projects conceived covered a broad range: improved transportation facilities, the conservation and development of natural resources, the construction of useful and necessary public works supplementing the capital expansion of private business and individuals, were all considered an integral part of the Government's investment program. The purpose of such a program was conceived as one of expanding the productive wealth of the community and widening the opportunities for enterprise and employment.

A certain amount of realism was attached to the acceptance of these principles. It was felt that in the absence of demonstrated success in any country in the world of administering such a policy, a certain amount of experimentation would be necessary. Admitting these difficulties, it was hoped that the best prospect for using public investment as a factor to mitigate deficiencies in export income or private investment expenditures lay in adopting the principles of

(a) using public investment programs to strike as near the source of deficiency as possible; and

(b) providing expenditures through established channels in which the deficiencies of income and investment were most severely felt.(3)

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(1) Employment and Income, op. cit., p. 15.
(2) The published statements on the Dominion's public investment policy have been based on the assumption that the provinces would accept the tax proposals presented to the Dominion-Provincial Conference on Reconstruction (1945). It should be noted, therefore, that modifications in the agreement reached with the provinces may affect the Government's investment policy.
(3) Proposals of the Government of Canada, op. cit., p. 25.

In order to achieve uniformity in the timing of public investment expenditures, the Government proposed (a) to encourage advance planning by other levels of government through lending technical assistance, providing factual information and by planning grants, and (b) to give timing grants for deferrable public projects, accepted and registered with the Dominion as fully planned, and executed at a time designated by the Federal Government. "In the timing of projects the Dominion would concern itself only with employment considerations, leaving to the provincial and municipal Governments the directio of their own investments, subject to the Dominion having discretion to determine in any one year the total value of projects, if any, on which it would pay timing grants within any province."(1)

The principles of investment policy as developed during 1945 became the guiding considerations for adopting measures of both encouraging and in some measure discouraging certain types of investment at different times during the transition period. In applying these principles the Government was faced with a continuously changing set of circumstances and the principles had to be interpreted broadly to fit the conditions faced between 1945 and 1948.

Government's Attitude towards Investment in the Post-War Period

When the war was drawing to a close, differences in attitude towards public and private investment which had moved in the background during the war came to the fore again. For it was in line with Government thinking of this period to return in the post-war era to a "free enterprise" economy as rapidly as conditions of post-war readjustment permitted. A program of gradual de-control was mapped out which was pretty well followed through the first two years after the war.

At the same time, however, it was realized that decontrol by itself would not solve many problems of the transition period and that some positive measures were required each designed to meet particular situations as they arose. These special steps as they affect levels of public and private investment are discussed briefly below.

Government's Attitude towards Public Investment

When the war ended, the Government had a large number of public projects on hand the execution of which had been deferred during the war. Some

(1) Proposals of the Government of Canada, op. cit., pp. 26-27.

of these projects were fully planned, others capable of rapid planning. But in proceeding to carry out some of these projects account had to be taken of other demands for the output of investment goods industries. In the first post-war year it became apparent that the high priorities attached to private investment for conversion, modernization and expansion of industry, housing and hospital construction made it impossible to undertake many public investment projects scheduled for execution in the early post-war period. As a result, the Federal Government's policy with regard to its own capital expenditures became one of limiting them to a basic minimum except in the special case of housing which is discussed later on.

Special survey and engineering control machinery was set up in the form of the Public Projects Branch in the Department of Reconstruction (later Reconstruction and Supply) to screen capital expenditures proposed by Federal Government Departments and report to the Cabinet Committee on Reconstruction on their urgency and economic significance (the latter in association with the Economic Research Branch of the Department of Reconstruction and Supply). This enabled the Cabinet Committee to advise Treasury Board and the Cabinet as a whole on how to keep the federal investment program at low levels during the post-war period.(1)

This policy was implemented from 1946 to 1948 and continues to be the current policy of the Government. It was repeatedly reiterated in public by Ministers of the Crown. To give two examples, one by the Minister of Finance and the other by the Minister of Reconstruction and Supply: "We have pruned our public works and other construction programs drastically in order to avoid demands on building materials and building labour urgently required for housing."(2) . . . . "The capital expenditures of the Dominion Government, however, on projects which would in general be desirable have been deliberately held down until labour, materials and exchange are in more plentiful supply."(3)

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(1) A more detailed description of the policies adopted, the procedures used and the effectiveness of the measures adopted, is given in Current Public Construction Program of the Dominion Government, Department of Reconstruction and Supply, Ottawa, April and December, 1946 and July, 1947 (confidential reports).

(2) The Right Hon. J.L. Ilsley, Minister of Finance, Budget Speech, June 27, 1946 (House of Commons Debates, p. 2903).

(3) The Right Hon. C.D. Howe, Statement in the House of Commons, December 17, 1947 (House of Commons Debates, Daily Edition, p. 287).

Within this broad framework of restricting the over-all volume of federal public investment activity a certain degree of flexibility was maintained. This proved useful in that it made it possible in some instances to proceed with federal public investment projects which appeared necessary in particular localities where unemployment pockets appeared as a result of the reconversion process which Canadian industry was undergoing. But on the whole reconversion proceeded at a satisfactory pace and with little dislocation so that the device of using public investment projects as a means of combating temporary unemployment had to be used only in a small number of instances.

The Federal Government's aim of keeping public investment expenditures as low as possible in the last three years was impeded by the fact that it had to confine its efforts to the Federal segment of public investment. With the failure of the Dominion-Provincial Conference on Reconstruction of 1945-1946 to reach agreement on over-all taxation matters, proposals for a joint development of a social security and public investment program were deferred. In its relations with the provincial (and municipal) governments, the Federal Government had to confine itself, in the absence of a co-ordinated public investment policy, to bringing to the attention of other governments the great need for materials and manpower of private industry and individuals. There was a great deal of emphasis on the inflationary effects which would result from large public investment expenditures whether undertaken by Federal, provincial or municipal governments. The appeal to the provinces and municipalities was usually couched in terms of the need for conserving scarce materials and labour for urgent projects such as housing. For example: "I hope that provinces and municipalities will find themselves able to follow a similar policy (Federal Government's policy of curtailment) at this time when the housing situation is so acute."(1)

The Federal Government's own example of restricting capital expenditures, the planning and engineering difficulties being encountered, and the rapidly rising costs induced most of the provinces (and municipalities) to proceed slowly with the execution of the large backlog of investment projects which they had accumulated since the depressed 'thirties and further increased during the war (see Summary Table 73).

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(1) The Right Hon. J.L. Ilsley, Minister of Finance, Budget Speech, June 27, 1946 (House of Commons Debates, p. 2903).

SUMMARY TABLE 73 - DIRECT GOVERNMENT EXPENDITURES(1) ON NEW DURABLE PHYSICAL ASSETS, CURRENT AND CONSTANT DOLLARS, CANADA, SELECTED YEARS, 1929-1948.

($ Mill.)

Year	Dominion Government	Provincial Governments	Municipal Governments	All Governments
		Current Dollars		
1929	53	54	47	154
1933	23	24	33	80
1939	34	92	39	165
1945	141	48	47	236
1946	36	89	69	194
1947	57	143	84	284
1948(2)	57	151	95	303
		Constant Dollars		
1929	48	48	42	138
1933	25	27	36	88
1939	34	92	39	165
1945	105	36	35	176
1946	25	61	48	134
1947	35	84	49	168
1948	30	77	49	156

Source: See Summary Table 1, p.29.

(1) Excluding government operated institutions and housing.
(2) Preliminary estimate.

Government's Attitude towards Private Investment

When peace came in 1945 the economic outlook was uncertain. A million-and-a-half veterans and war workers had to be re-absorbed into the civilian economy. Foreign trade had to be re-established, taxes were high and discouraged investment. Industrial plants and equipment were in need of overhauling, replacement and modernization. Markets for many goods both at home and abroad were by no means assured. Problems of financing and exchange loomed large.

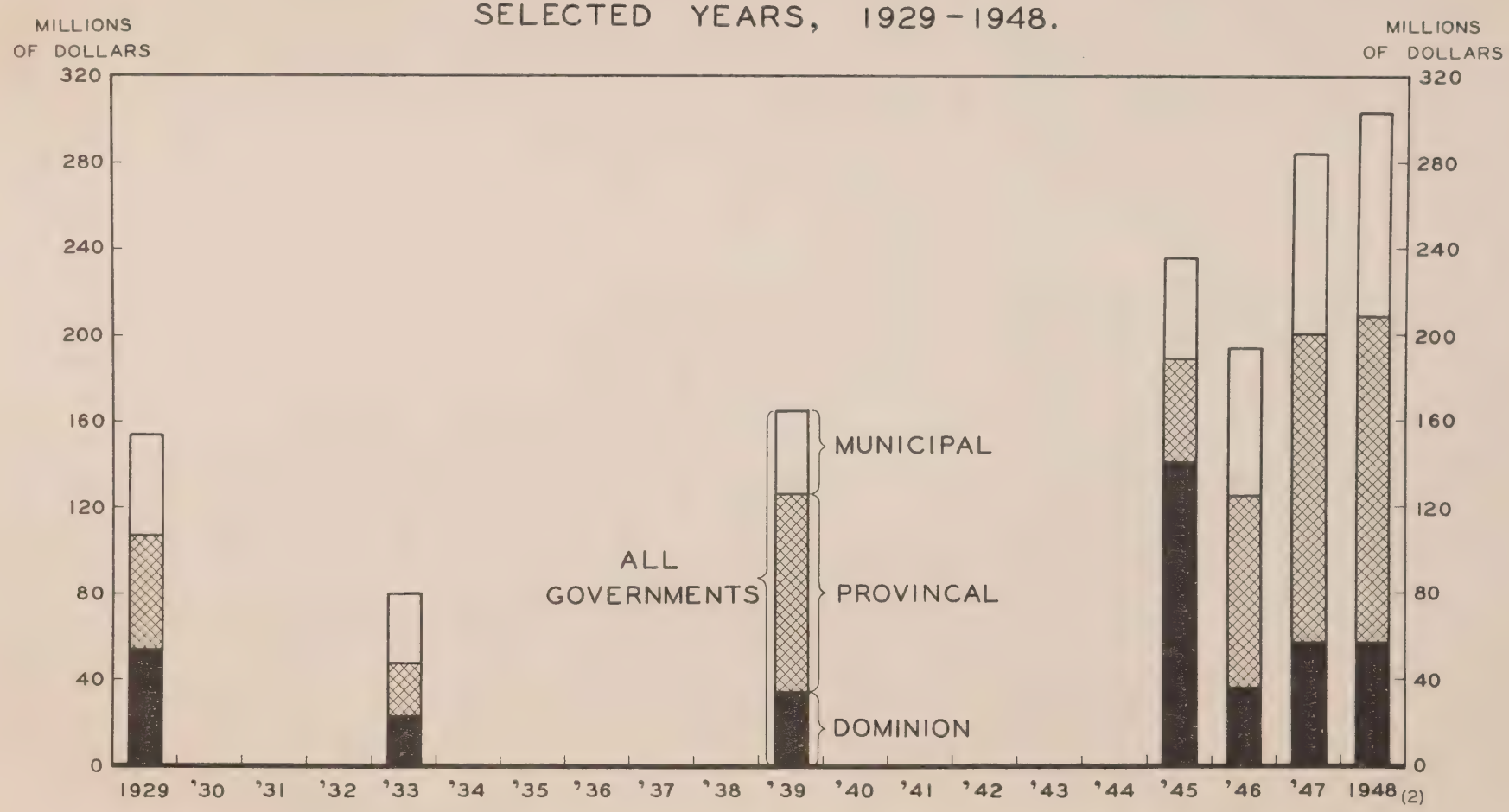
In this situation the Government's policies to encourage and facilitate the conversion, modernization and expansion of Canadian industry were developed along two lines:

1. Measures designed to speed up liquidation of wartime obligations and the war-created industrial structure through rapid cancellation and settlement of outstanding war contracts, speedy renegotiation of completed war contracts, disposal of Government-owned war materials, stores, plant and equipment in excess of peacetime needs, and the winding up or reconstitution of Crown companies established during the war.

- FIGURE XII -

DIRECT GOVERNMENT EXPENDITURES[1] ON NEW DURABLE PHYSICAL ASSETS, CANADA,

SELECTED YEARS, 1929-1948.



(1) EXCLUDING GOVERNMENT OPERATED INSTITUTIONS AND HOUSING. (2) PRELIMINARY.

SOURCE: SEE P. 177.

2. Direct fiscal incentives to encourage industrial expansion pending the revision of the over-all restrictive wartime tax structure to conform to the continuing peacetime needs for the maintenance of a high level of employment and income. Such fiscal aids included the privilege of writing back or carrying forward losses to allow business firms to approach more nearly an average profit basis for taxation purposes: the granting of a flat tax rate for the first year of operation of newly-established companies, thus exempting them in part from the full taxation load under the Excess Profits Tax Act; tax concessions to encourage the exploration and drilling for oil and the exploration and prospecting for base metals and strategic minerals; permission to write off current expenditures for research in the year of expenditure and capital expenditures over a three-year period; and provision for special depreciation on new investment in industrial plant and equipment of a type that would speed up the process of industrial adaptation in the transition period.

These specific policies were supplemented by broader policies dealing with such matters as credits to Canada's foreign customers in order to aid them in their recovery, and also to maintain markets abroad for many of Canada's best primary products. To cope with war-engendered scarcities, materials in short supply were allocated to the most essential uses. The high level of wartime taxation was reduced to provide incentives for increased production. The low interest policy of the Government was continued - with adjustments in the later part of the post-war period in the light of changing conditions (see page 186)

Both the general and special measures indicated above were designed to aid industry in the process of reconversion and adjustment from a war footing to a peacetime basis and to encourage continously increasing output until it would meet both domestic and foreign demands which loomed much larger than ever before in Canada's history.

In carrying out these policies certain priorities had to be developed to take care of urgent needs first. This was necessary because it was realized even before the war ended (and was confirmed by subsequent events) that in the transition period there would not be all the manpower and materials available to meet the large volume of work of an investment nature waiting to be undertaken when peace came. The Government's policy, therefore, was to facilitate those investment expenditures that appeared to be of "greatest urgency".(1)

(1) White Paper on Employment and Income, op. cit., p. 9.

Classed as such urgent projects were business investment projects which would contribute most rapidly to the expansion of Canada's productive capacity, housi and hospital construction.

This policy meant discrimination between certain types of investment a against other types. In the field of private business investment it reflected the Government's belief that the shortest way of coping with the inflationary forces inherent in the system was to aid those industries that would provide the goods which were in greatest demand. The administration of special depreciatio provisions may be taken as an example of this aspect of the Government's attitu towards private investment. Reference to this provision is perhaps particularly appropriate because it has been singled out for most of the criticism which has been levelled against the Government's attitude towards private investment (see p. 194)

Special depreciation provisions were one of the instruments designed to encourage the rapid expansion of certain industries, particularly manufacturing and some primary industries, in the transition period. Other industries, such as service and commercial establishments, were not given the same privileges. This was done in the hope that a number of these enterprises would postpone their investment programs for a year or two - and in some cases even longer - until the re-orientation of the labour force to civilian tasks would be completed and increased supplies of materials would allow an expanded volume of investment activity.(1) The economic reason behind this move was the expectation that, with some postponement of investment plans by service and commercial enterprises, these programs, when executed in a period of declining investment by manufacturing and primary industries, would contribute to a more stable level of private investment - at least for a period of several years.

Among the industries that were encouraged to go forward with their investment programs in the immediate transition period were three major groups:

(a) War industries, particularly in the manufacturing field, in need of conversion to turn out peacetime goods;

(b) Basic industries which had delayed programs of modernization and

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(1) Investment by utilities, commercial and financial groups, agriculture, service and similar industries precluded from special depreciation provisions made up 53.8 per cent of the total investment by business enterprises in 1946, and 57.2 per cent of the investment program forecast for 1947.

expansion during the war and whose output was urgently needed to provide the materials required for the capital expansion program, exports, and the operation of Canada's manufacturing industries;

(c) Other industries supplementary to the industrial expansion pressing forward, e.g., the construction industry and industries of importance for Canada's long term economic development, e.g., commercial shipping.(1)

Special depreciation provisions became effective November 10, 1944, and were first limited to projects commenced on or after that date but completed before December 31, 1946. The period was extended first to March 31, 1948, and later to March 31, 1949, with the proviso that all applications for special depreciation had to be filed with the Department of Reconstruction and Supply before March 31, 1947. Since the special depreciation provision was designed only as a transitional measure to aid in the conversion, modernization and expansion of industry, its purpose appeared to be accomplished as the reconversion period gave way to a period of long-term adjustment of Canadian industry to changing domestic and foreign markets.

Special depreciation provisions were primarily designed to encourage selected types of business investment. Later it was found possible to use this device also as a means of influencing in some measure the timing of capital expenditures. The provision was not a measure of control but rather an instrument of persuasion and guidance. As such, its effects were limited, for business enterprises that wished to go ahead without making use of special depreciation privileges could do so if they could obtain supplies.(2) Those businesses desirous of obtaining the benefits of this provision were subject to some guidance in terms of timing by tying approvals to a suggested date of commencement of the investment project.

In administering the timing aspects of this provision, two periods can be distinguished:

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(1) Encouragement to Industrial Expansion in Canada, Operation of Special Depreciation Provisions, November 10, 1944 - March 31, 1949, Department of Reconstruction and Supply, Ottawa, 1948, pp. 27-28.

(2) This applies to the period after abolition of Construction Control on December 4, 1945.

The first was from November 10, 1944, to December 4, 1945, while Construction Control was in existence.(1) During this time, the special depreciation provision was used as a supplementary instrument to Construction Control in that certification of new construction, structural improvements or installations were granted only in cases where construction licences had been approved. Special depreciation was generally granted for the acquisition of new or used machinery and equipment and existing plants and structures, but where labour and material shortages counselled the postponement of a construction project, the applicant was advised to do so. Frequently, he was given authority to order machinery and equipment for which delivery dates ranged from three months to a year and was advised to apply again in three to six months for special depreciation with regard to the construction expenditure. This was done in the expectation that an improvement in the labour and material supply would make the execution of the construction project feasible at a later date. In areas where comparatively large unemployment threatened as the result of cancellations of armament and munition contracts, construction licences and special depreciation were generally granted to minimize as much as possible dislocations in the labour market during the transition period.

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(1) Some measure of construction control had been vested early in the war in the Priorities Officer of the Department of Munitions and Supply (see Orders in Council P.C. 1169, February 20, 1941, and P.C. 3481, May 16, 1941, as amended by Orders in Council P.C. 3634, May 21, 1941, and P.C. 4320, June 17, 1941). These functions were turned over to the Construction Controller by Order in Council P.C. 6656, August 26, 1941, and amplified by Order in Council P.C. 660, January 30, 1942, as amended by Orders in Council P.C. 11283, December 16, 1944, P.C. 9833, December 28, 1943, and P.C. 3, January 4, 1944. These provisions made it mandatory to obtain a construction licence for any job involving the installation of equipment in a plant, and construction, repair, alteration, or addition to any plant, building or structure, exceeding $5,000. Construction licences were issued in the light of available construction resources, with priority being given to projects that had a war purpose. Because of manpower and material shortages many construction projects that appeared to serve peacetime purposes only had to be postponed during the war period.

The second period commenced with the abolition of Construction Control in early December, 1945,(1) and ended on March 31, 1947, the expiry date for applications for special depreciation submitted to the Department of Reconstruction and Supply. Towards the end of 1945 and in the beginning of 1946, output of building materials increased in a number of lines. At the same time, large-scale demobilization was swelling the ranks of the civilian labour force, thus increasing the available labour supply. This increase in resources, however, was more than offset by a substantial expansion in investment plans contemplated by business enterprises for 1946. The intended investment volume for this year was forecast to be some four-fifths higher than actual accomplishments in 1945.(2)

The situation in Spring, 1946, was summed up thus by the Minister of Reconstruction and Supply:

"For a time I was pleased with the rate of expansion. Today I am rather alarmed by it. It seems to me that the expansion is coming too rapidly and that we shall face an insoluble problem of shortages of material as well as shortages of manpower when the program now under way comes into full production."(3)

Production of building materials during Spring to Fall, 1946, remained behind expectations. In some instances, industrial disputes caused declines in output. In others, the lack of raw materials or skilled mechanics made full use of productive capacity impossible. As a result, and in order to make possible an increased flow of available materials to go into housing construction, the

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(1) Construction Control was abolished by Order in Council P.C. 7237, December 4, 1945. Some measure of control was maintained through the establishment of a building material priorities system, commencing in August, 1945, and amplified by Order in Council P.C. 1609, April 23, 1946. This Order empowered the Priorities Officer of the Department of Reconstruction and Supply, among other things, to "prohibit, control and regulate the making of, or dealing in, construction materials." Priority assistance for building materials was provided for Government-approved construction projects, mainly military hospitals and veterans housing projects (see Housing in Canada, op. cit. July, 1948, pp. 14 and 43, and preceding issues).

(2) Investment plans of all business enterprises excluding residential real estate, were forecast at $952 million for 1946, as compared with actual estimated expenditure of $516 million in 1945. Because of supply difficulties actual investment plans realized in 1946 were lower, estimated to amount to $823 million (see Capital, Repair and Maintenance Expenditures of Business Enterprises in Canada, Forecast 1946, Ottawa, September, 1946, p. 14, and Forecast of 1947 Investment by Canadian Business, Department of Reconstruction and Supply, Ottawa, March 1947, p. 7).

(3) House of Commons Debates, March 20, 1946, p. 115.

period for completion of industrial investment projects for which special depreciation had been granted was extendedto March 31, 1948.(1)

In summer, 1946, the Minister of Reconstruction and Supply emphasized again: "The need for housing is so great that it is desirable that industrial projects should be limited to those which are urgent from the point of view of employment." It is hoped, said the Minister, that the extension of the qualifying period for "double depreciation" will permit "the postponement of some projects which involve extensive construction until the supply situation is less acute. Extension of the period for double depreciation is expected to have a salutary effect on residential construction."(2)

In this period, special depreciation approvals were given to the acquisition of new or used equipment and existing plant facilities. With regard to most new construction undertakings, applicants were advised that the same privilege could not be accorded to them at this time because of the existing shortages of labour and materials. Approvals for special depreciation for the construction portion of capital expenditure were in these cases made dependent on the postponement of the project until the end of 1946.(3)

It was not until industrial unrest subsided in the last quarter of the year and prospects for increased production of building materials in 1947 improved that many of the deferred applications for special depreciation were approved. By the end of March, 1947, the granting of special depreciation privileges was discontinued.

The record of how special depreciation provisions were administered fits into the broader picture of the Government's general attitude towards private investment (except housing) in the transition period.

In the first year of the post-war period the emphasis was for removing as rapidly as possible all obstacles to speedy plant conversion, modernization and expansion essential to obtain a rapid increase in peacetime output. In this period the positive encouragement given to industrial expansion contributed to an increased demand for capital goods by certain industries and can in this respect be described as contributory to inflationary forces prevailing in the

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(1) Order in Council P.C. 1449, April 16, 1946.
(2) House of Commons Debates, July 22, 1946, p. 3674.
(3) Encouragement to Industrial Expansion in Canada, Operation of Special Depreciation Provisions, November 10, 1944 - March 31, 1949, Department of Reconstruction and Supply, Ottawa, op. cit. pp. 29-31.

economic system. It was frankly recognized that Canada - whose price levels had been lower at the end of the war than that of most other countries - had to move up to or at least come closer to apparent world price levels, more particularly the price level prevailing in the United States. It was thought that the best way of making the process of price adjustment as painless as possible was to encourage a rapid increase in productive capacity which would yield the additional supplies required to cope with the large volume of pent-up and current demand.

Incidentally, some of the measures in the investment field taken by the Government in the first post-war year were a restraining influence on price increases. The rapid transfer of war plants for peacetime use by Canadian industry meant that the industries whose needs were met did not have to go out and build new or expand existing plants. The sale of large supplies of machinery and equipment accumulated during the war, much of which was modern and in good condition, to Canadian industry through established trade channels meant that orders for new machinery and equipment were lower than they would have otherwise been.

In the second and third post-war years when it became apparent that a private investment boom was under way that promised to exceed any previous boom in absolute size - although its relative size was not too clearly understood - the policy of encouraging private expansion changed into one which can be described as "mildly deflationary". The goal of maximum production still remained but a slower pace of capital expansion seemed desirable.

Before summarizing the Government's attitude towards private investment, a brief statement is required on the Government's action to cope with the Canadian-U.S. dollar shortage which became particularly acute in November, 1947 (see Section II). The problem faced was a simple one, the solution a complex one. Canada was selling more to Europe and other non-dollar countries than she was buying and she was buying more from the United States than she was selling. An attempt to find an answer to this problem was made by passing the Emergency Exchange Conservation Act(1) in the 1948 session of Parliament. This Act divided the import of goods placed under control into three groups: (a) those that Canada could do without (Schedule I), (b) those that Canada could do

(1) 11-12, Geo. VI, Chap. 7 (assented to March 24, 1948).

with less of (Schedule II), and (c) those that Canada needed (Schedule III) but, which had to be used to the best national advantage because of the limited U.S. dollar resources available.

The commodities listed in Schedule III are broadly called "capital goods" and cover machinery and equipment for direct use and materials and parts for assembly and servicing in Canada.(1) In allowing the importation of capital goods the Government was guided by a number of principles, of which the most important one was the maintenance of essential facilities required for the efficient functioning of the national economy. Particular attention was also given to investment plans which would help this country either to earn or save U.S. dollars. This aspect of the capital goods import control policy proved to be a useful means of encouraging the further expansion of Canadian industry (see Section IV).

Since less than a year of experience is available in administering Schedule III, it is too early to pass judgment as to its effectiveness. Preliminary evidence available so far justifies two broad conclusions: (1) Imports of "capital goods" under Schedule III during 1948 have been kept at about the 1947 level in dollar terms (see Summary Table 74). Because of the increase in prices this means a decline in volume. (2) Branch plant expansion of foreign firms in Canada has been encouraged (see Section IV).

SUMMARY TABLE 74 - IMPORTS OF CAPITAL GOODS CONTROLLED UNDER SCHEDULE III, EMERGENCY EXCHANGE CONSERVATION ACT,(1) CANADA, 1938-1948.

Year	$ Mill.
1938	107
1939	119
1945	293
1946	384
1947	610
First Nine Months 1947	475
First Nine Months 1948	454

Source: Special compilation by Economic Research Branch, Department of Reconstruction and Supply.

(1) The Act was passed on March 24, 1948 but some measure of control over imports of capital goods was exercised between November 17, 1947 and the passage of the Act. It was after March, 1948 and particularly since June that the controls were extended to most of the items covered by Schedule III of the Act.

(1) Some of the items covered in Schedule III include commodities which ultimately could be used either by producers or consumers, e.g. motor vehicles, safes and scales.

Turning now to an examination as to whether the Government's attitude towards private investment in the second and third year was "mildly deflationary" as suggested above, the following measures taken by the Government throw light on this point.

1. The 1947-1948 Government budgets were both so designed as to yield large surpluses which siphoned off private purchasing power.(1)

2. The easy money policy which had been the accepted policy for about a decade was - without coming to an end - tightened moderately. The interest rate firmed and commercial bank credit became less easily obtainable than it had before.(2)

As to the effect of this policy, the following observations by the Minister of Finance are pertinent: "This increase in interest rates at this time is not expected to have any great effect in restraining the high level of capital expenditure that is going on under present circumstances and which is contributing towards an inflationary situation in Canada, but such effect as it may have will be in the right direction. However, I do not believe that any reasonable increase in interest rates would act as a serious brake upon business expenditures under the circumstances of today nor would it serve effectively to persuade consumers to spend less and save more of their income.

"Perhaps I might amplify this statement. Looking at the supply side of the market for funds, I cannot attach great importance to the influence of interest rates on the volume of savings by the general public. It is difficult to believe that the mass of small savers are likely to reduce their living expenditures under current conditions, merely because they can obtain a higher interest rate on the money they would save. It is possible, of course, that higher rates would induce the public to increase its purchases of government bonds but this would not be anti-inflationary unless they were doing so by increasing their current savings. Otherwise it would simply represent a switch from idle savings deposits to bonds and have no national economic effect.

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(1) As to the effect of this on investment, see Section V.

(2) For a statement of the attitude of the Bank of Canada towards private investment, see evidence given by Mr. Graham Towers, the Governor of the Bank of Canada, before the Sub-committee on Prices, Minutes and Proceedings of Evidence, No. 64, May 27, 1948, pp. 3350 ff. and Annual Report to the Minister of Finance for the Year 1947, Bank of Canada, Ottawa, 1948, pp. 4-9.

"Analysis of the demand side of the market leads me to the conclusion that no reasonable increase in interest rates is likely to affect materially the action of the industrial borrower. In that field demand is so intense that it would take a really substantial change in interest rates to dampen his enthusiasm and make him defer his capital project. But a rise in rates sufficient to produce these results would cause so drastic a fall in the prices of bonds and such chaotic conditions that I doubt whether any responsible person would recommend it as a deliberate policy. What we need is a slowing down, not a sudden cessation, of the capital development which has been taking place at a pace which has been straining our resources."(1)

3. Expansionist measures such as special depreciation provisions which were only designed to meet the earlier phase of uncertainty were discontinued as soon as this could be done without harming industry. The use of special depreciation provisions as a means of inducing postponement of some investment expenditures was incidental to the original purpose of the provision but was found useful for the short interval of Summer, 1946 to March, 1947.

4. Powers of allocation of scarce materials, particularly steel, were used to direct the flow of key commodities into industries which would contribute to an immediate increase of production, with other less essential industries such as service industries and commercial enterprises finding it more difficult to obtain the necessary supplies. To assure an adequate supply of building materials at home, export controls were retained for a number of items, including gypsum products, roofing and building paper, pulp and fibre wallboard, various types of heating, plumbing and electrical equipment, and hardware, and window glass.

5. Although the main consideration in administering the capital goods part of the Emergency Exchange Conservation Act was to assure that, within the limitations of Canada's limited exchange resources, essential industries would continue to receive capital goods most urgently required, the results so far achieved, as indicated above, suggest that capital goods imports have been kept in 1948 at about the 1947 level in monetary terms, which in effect means a lower

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(1) Statement by the Right Hon. D.C. Abbott, Minister of Finance, May 18, 1948 House of Commons Debates, pp. 4058-4059.

volume in 1948.(1)

6. In the area of private investment not directly affected by any of the measures indicated above, the Government repeatedly appealed to the good business sense of industry not to try to undertake investment projects of a less essential character at a time when costs were high and shortages were great. It emphasized the economic advantages to be gained from such a course: "There is a large amount of private capital seeking investment in new building, plant and equipment, but the amount of expenditure of this kind is severely limited now by shortages of materials, parts and manufacturing capacity, In the building and construction field particularly, shortages of building materials, and to a lesser extent the shortage of skilled labour, are seriously restricting the provision of housing that is most urgently needed, as well as other forms of construction, particularly commercial and industrial buildings. It is to be hoped that this industrial and commercial expenditure that cannot readily be made now will be deferred a year or two, when it will help in sustaining high levels of employment and incomes after other temporary stimulants are less strong."(2)

To support this argument the temporary character of the current high level of private investment activity was emphasized: "Much of the large expenditure of business on plant and equipment represents accumulated or postponed requirements and does not give us any reliable guidance as to what we may expect on a continuing basis, even under relatively prosperous conditions."(3)

The above-noted attitude of the Government has remained unchanged, as pointed out in a recent statement by the Minister of Reconstruction and Supply: "I would like in passing also to draw attention to the disturbing inflationary possibilities inherent in such a program. Some postponement of the less essential expenditures in this program will be far from harmful. It will not cause any unemployment in the construction or capital goods industries. In fact

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(1) It can be argued that capital goods import restrictions are both inflationary and deflationary. The inflationary argument: A cut in the volume of import of capital goods without a cut of exports of domestically produced capital goods increases the pressure on Canadian industry whose capacity is already taxed to the utmost. The deflationary argument: A cut in the volume of imports forces those industries which need specialized key materials or machinery and equipment from abroad to postpone whole projects of plant expansion or modernization which would usually absorb a large portion of domestically produced capital goods, as well as the items brought in from abroad.

(2) Statement by the Right Hon. J.L. Ilsley, Minister of Finance, June 27, 1946 (House of Commons Debates, pp. 2902-3).

(3) Budget Speech by the Right Hon. D.C. Abbott, Minister of Finance, April 29, 1947 (House of Commons Debates, p. 2544).

our capacity in a number of key instances, such as steel supply, will be strained to the limit to provide for essential construction. Additional demand in the market will simply bid up prices, intensify shortages, interrupt necessary work and generally add to costs. On the other hand, projects postponed now will prove useful in maintaining employment and income in the future."(1)

The Special Case of Housing

Housing is the only field of investment activity where both private and public projects were undertaken on a comparatively large scale. As indicated above, in all other fields the Government's direct public investment policy has been restrictive throughout the post-war period. Housing is a special case in the Government's investment policy in that it is the only field - except hospital construction which is a considerably smaller field of activity than housing - where the Government's investment policy has been consistently expansionist in the post-war period.

The story of the large housing backlog facing this country at war's end is too well known to be repeated here.(2) It may be sufficient to note here that as a result of deficiencies of the 'thirties and the war period, rapid increases in population and family formation, high levels of employment and income, public pressure for new housing both for returned veterans and their families and civilians became so strong in the post-war period that neither the Government in power nor any of the opposing parties felt that they could sponsor any other cause than that of continuously expanding and improving standards of housing for the Canadian people. Differences of views developed as to the best means to be adopted to accomplish this purpose but, as in the case of family allowances, there was little official disagreement on the principle that housing should have high priority on the investment resources available in the country.

As a result the Government proceeded to develop a program of housing construction which was considered within the resources of the country and which would at the same time make it possible to carry out a large program of industrial expansion. The housing program developed along three lines.

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(1) Statement by the Right Hon. C.D. Howe, Minister of Reconstruction and Supply, House of Commons Debates, February 23, 1948, pp. 1492-1493.

(2) Final Report of the Sub-committee on Housing and Community Planning, Advisory Committee on Reconstruction, Ottawa, 1944, and Statement by the Right Hon. C.D. Howe, Minister of Reconstruction and Supply, House of Commons Debates, July 22, 1946, pp. 3671 ff.

1. With regard to the supply of new housing, the Government undertook two different types of measures: (a) direct Government housing construction to provide (i) low rental housing for veterans and their families (formerly Wartime Housing and now administered by Central Mortgage and Housing Corporation), (ii) intermediate rental housing with veterans being given preference (formerly Housing Enterprises Limited and now administered by Central Mortgage and Housing Corporation), (iii) housing for ownership for veterans (under the Veterans' Land Act, 1942), (iv) rental housing for married service personnel, and (v) emergency shelter to provide temporary rented quarters pending the construction of permanent housing units; (b) financial and related assistance including (i) loans and guarantees for ownership, rental housing and land development under the National Housing Act, 1944, (ii) rental insurance, also under the National Housing Act, 1944, to encourage new rental housing, and (iii) serving the same purpose, special depreciation for new rental housing.(1)

2. With regard to the supply of the factors of production, Government measures covered both materials and labour. (a) In the materials field, the steps taken included: (i) key materials, particularly steel, made available to building materials producers, (ii) other items such as timber and various types of equipment kept under export control to assure an adequate supply at home, (iii) capital subsidies provided in a few instances to building material producers to reduce the risk of too rapid expansion, (iv) financial assistance provided to building material manufacturers through the Industrial Development Bank, and (v) certain quantities of building materials directed into essential housing channels through a system of building material priorities which required producers and distributors to meet the needs of private housing projects before the requirements of the remainder of their customers. (b) In the field of construction labour, the provisions made were chiefly (i) financial assistance to speed up training of veterans in building trades and encourage the expansion of provincial apprenticeship training facilities, and (ii) increased flow of trained building workers through immigration from the British Isles and European countries.

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(1) For a description of the various housing programs under way, see the Annual Reports of the Central Mortgage and Housing Corporation to the Minister of Reconstruction and Supply for 1946 and 1947. For a statistical measurement of the progress made so far, see Housing in Canada, July, 1948, op. cit., and preceding issues.

3. With regard to prices of the completed construction product -- and this applies to other types of construction projects as well as housing similar to the measures referred to under 2(a)(i), (ii), (iii) and (iv), and 2(b) -- some steps taken in the early post-war period, such as the removal of sales taxes on building materials and the maintenance of price control over steel in a modified form(1) after the prices of most commodities were de-controlled, kept costs from moving even higher than the levels currently reached (see Section III).

While the Government's effort in the housing field was an all-out effort in line with its undertaking that housing would be given a high priority on the resources of the country, the question of the inflationary impact of such a policy was kept in mind. This is reflected in two attitudes: (a) refusal to liberalize further the lending conditions under the National Housing Act, in 1948 and (b) refusal to proceed with direct Government rental housing projects in which rising costs would make it impossible to provide housing at a low rentals not exceeding $37.50 monthly for a five-room house.

The Government's attitude in this matter has been summed up by the Minister of Reconstruction and Supply as follows: "From time to time we receive requests that the corporation increase its level of lending values. We agree that the lending values upon which National Housing Act loans are based are somewhat less than the present average cost of construction. Nevertheless, we do not feel that we would be justified in capitalizing into long-term mortgage debt many of the elements of cost which now exist. A further increase in National Housing Act loans would be an inflationary step and would in itself contribute to higher costs. We realize that with the prices of houses rising and no corresponding increase in National Housing Act loans, equity requirements of the home owner are increasing. Nevertheless, after taking all factors into consideration, we have decided it would be unwise to contribute further to the general inflationary tendencies, and it is our intention to maintain during 1948 the present level of lending values.

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(1) Currently primary steel and primary rolling mill products are subject to a price ceiling. Excepted from this price ceiling are such items as rails, structurals, alloyed plate sheet and bars, forging billets and seamless tube billets.

"The same problem of high and increasing costs may limit our rental program. Our present policy is that we will not enter into construction of rental units if total costs of all kinds are estimated to exceed $6,800 per unit, which under the rental formula, involves a rental of $37,50 for a five room house. Acceptance of these high costs by us has the effect of confirming the upward trend in prices. We realize that rental housing is needed, but the point has been reached where we must weigh the need for rental housing not only against the very high cost, but also against its contribution to the inflationary trend. Already this difficulty has occurred in municipalities where agreements have already been signed. Our present attitude is that unless arrangements can be made so that a maximum rental level of $37.50 can be maintained, construction will not proceed."(1)

In the light of the measures taken by the Government to assure that a certain proportion of Canada's resources go into housing, the question is frequently asked: "Is not the high level of housing construction encouraged by the Government and supported by strong private demand a contributory factor to the current inflationary boom?"

The answer to this question: Any additional demand for construction - whether it is of the housing, industrial, commercial, service or direct Government type - if not matched by a corresponding increase in supply would contribut to bidding up the prices of the product the construction industry turns out. In this sense the additional demand is inflationary, but in reality the problem is more complex. The demand-supply situation in the construction field was tight when the war ended and has remained so throughout the post-war period. Had the Government not taken special measures to direct a certain volume of resources to the housing field, other demands such as commercial and service establishments - which were held back - would have absorbed a large portion of the materials used for housing purposes. Housing, which is usually financed by consumers in a financially weaker position than business establishments, would have had little opprotunity to outbid commercial or other enterprises. The result would have been higher housing prices and a lower volume of housing.

Against this it may be said that commercial and service establishments which wanted to go ahead with their projects in the post-war period would bid up

(1) Statement by the Right Hon. C.D. Howe, Minister of Reconstruction and Supply, House of Commons Debates, May 5, 1948, pp. 3640-3641.

prices of such materials which were not allotted to the housing field and were available on the "free" market. This would contribute to a general rise in prices of building materials and labour and thus affect housing. This argument is warranted and confirmed by actual events, but there is an offsetting factor in that the Government's efforts were also directed towards increasing the supply of the construction resources to meet the added demand for materials and labour.

If the record of World War I and the immediate post-war period is any guide (see Section III), it is questionable as to whether building costs would not have been as high or even higher than they are today had the Government left both the supply and demand sides of the construction resources entirely to free market forces. One thing, however, is reasonably sure: Canada would have had more commercial and service establishments and fewer houses today.

Criticism of Government's Attitude towards Investment

Little criticism has been heard of the Government's attitude towards public investment. But a great deal more controversy has arisen about the Government's attitude towards private investment in the post-war period.

Criticism of the Government's Attitude towards Public Investment

The criticism of the Government's public investment policy has mainly come from two sources: (a) official criticism directed against the current volume of public construction, and (b) sectional criticism from organizations, such as The Canadian Construction Association against the inadequacy of the preparations for a shelf of useful projects for implementation if and when required for employment and income reasons to offset a decline in private investment activity.

The answer to the first criticism(1) has been the statements previously referred to by Ministers of the Crown (see above, p.175) that it was the Government's declared policy of curtailing its own public investment expenditures in the post-war period when private investment activity was high, and that special machinery had been set up to make sure that such a policy was implemented in the Dominion Government field. In the provincial and municipal fields the Dominion Government had no other recourse than moral persuasion.

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(1) House of Commons Debates, May 25, 1948, p. 4361.

With regard to the comments as to the speed with which the Dominion Government was assembling a shelf of useful public projects,(1) the Government's attitude was this: (1) that the Government was proceeding in assembling a public project shelf as rapidly as the resources at its disposal made it possible, (2) that it had set up special machinery to assemble such a shelf comprising Federal projects, - the shelf exceeded the $100 million mark by Fall, 1948 - (3) that the only way of speeding up the rate of assembling the shelf would be by drawing engineers from private industry, an inflationary move in the light of the scarcity of technically trained personnel, and (4) that in the absence of Dominion-provincial agreement on public investment policy the Government had to confine its activities to the Federal field and that the expansion of the shelf would depend on Dominion-provincial understanding being reached on public investment matters.

Criticism of the Government's Attitude towards Private Investment

In this field the criticism both in Parliament and outside centred around the following points: (1) the abolition of construction and price controls and the inadequacy of subsequent measures adopted to assure that building materials go into essential products, (2) the encouragement given to industrial investment through special depreciation in the post-war period, (3) the encouragement given to the private investment boom through "easy money" policy, (4) the discrimination between consumer goods and capital goods through a number of measures, but particularly the provisions of the Emergency Exchange Conservation Act, (5) the inadequacy of the housing program in its aggregate or its composition and the measures employed in carrying it out.

Some evidence on these points is assembled below. It does not either in full or in part refute the criticism made but is designed rather to aid the reader in drawing his own conclusions.

The first point is concerned with the desire to limit over-all demand for investment projects and to direct the limited construction resources of the country into projects of high priority like housing, hospitals, and industrial undertakings essential to turn out an increased flow of commodities urgently required. Lesser priorities should be attached to commercial enterprises and

(1) Resolution Number 4 on "Public Project Planning", Canadian Construction Association Thirtieth Annual Meeting, Quebec City, January 25-28, 1948.

institutional investment and a low rating to investment by service and amusement establishments. The criticism(1) is based on the assumption that the continuation of construction controls as in existence during the war years would have been an effective weapon for keeping demand for investment resources down. But in effect construction controls were difficult to enforce during the war and these difficulties were expected to be multiplied when the dangers of and sacrifices imposed by the military conflict disappeared.(2) Further, since the over-all policy of the Government was one of de-control, to maintain some controls and lift others which were related appeared to be unworkable. In these circumstances an allocation and priority system that would concentrate on key materials and their direction into essential uses appeared to be preferable and was in fact adopted.(3) With regard to the lifting of price and wage controls, the criticism usually centred around the fact that housing costs were rising rapidly.(4) The reply to this criticism was usually couched in terms of the tie-in of this policy with the general Government policy of de-control and a reference to the fiscal measures designed to offset the rising cost of building materials and the measures taken to increase supply (see p.190).

On the second point, criticism of special depreciation was concerned mainly with two aspects:(5) (a) that the special depreciation provisions were "extravagant inducements" enabling firms to "escape taxation", and that industrial building thus encouraged was in "competition with the building of private homes", (b) that the timing was faulty and the provisions were contributing to inflation.

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(1) Most of the criticism was made in connection with the move of the Federal Government to replace construction controls by a system of building permit control under municipal jurisdiction. Examples of such criticism are to be found in the House of Commons Debates of 1946, pp. 3700 ff., 3712 and 3989 ff. The provisions authorizing municipalities to exercise control over erection, alteration and repair of buildings are contained in Order in Council P.C. 1184, March 27, 1946. The purpose was explained by the Minister of Reconstruction and Supply in connection with discussing an amendment to the National Housing Act, 1944, on July 22, 1946 (see House of Commons Debates, p. 3674).

(2) For a statement on the difficulties of enforcing construction controls during the war and the problem of determining which project was essential and which was not, see Statement by the Right Hon. C.D. Howe, Minister of Reconstruction and Supply, House of Commons Debates, July 29, 1946, p. 4007.

(3) For a summary statement of the course of controls in the immediate post-war period, see The Dominion Program of Reconstruction, Canada Year Book 1947, pp. 1100 ff.

(4) See, for example, House of Commons Debates, March 18, 1946, p. 26.

(5) See House of Commons Debates, May 6, 1948, pp. 3689-3691, May 20, 1948, p. 4191, May 21, 1948, p. 4246, May 25, 1948, pp. 4350-4351, 4355-4356, and p. 4362; and Minutes and Proceedings of Evidence, Special Committee on Prices, May 27, 1948, pp. 3352-3356.

With regard to the first aspect, the Government's reply was that special depreciation provisions were a measure designed to reduce some of the risk involved in embarking on large capital expenditures in the transition period when taxation was high and the economic outlook was uncertain. At the same time Federal revenue was safeguarded by "requiring an adjustment in profit and loss account in the event of subsequent sale of the assets in respect of which special depreciation has been allowed".(1) The purpose of the provision was not to allow income to escape some measure of taxation, but it provided for lower taxes over the period as a whole and particularly reduced taxation in the initial years when the high wartime tax rates were still substantially in existence. With regard to the complaint about the competitive nature of industrial and housing construction, the usual reply given was the reference to the building material allocation system in operation which had yielded good results (see 187).

With regard to the second aspect of faulty timing, this criticism, it was said, did not take account of the actual events as they occurred. For there were two distinct periods in administering special depreciation provisions, as explained earlier (see 180). The criticism was applicable to the first period but not to the second. Another explanation as to the reason for the length of time during which special depreciation provisions were operative would be the fact that there usually is a certain lag between the time when changing economic conditions may make an existing measure inappropriate and the time actually taken to discontinue the measure.

On the third point, criticism was directed against the "easy money" policy, particularly the low rate of interest which was maintained by the Government during the war years and the post-war period and other financial assistance in the post-war period.(2) The Government's attitude on this matter has been referred to earlier (see p.186). The steps taken by the Bank of Canada which led to a tightening of the interest rate and conditions of lending were explained by Mr. Graham F. Towers, the Governor of the Bank of Canada, when he

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(1) Encouragement to Industrial Expansion in Canada, Operation of Special Depreciation Provisions, November 10, 1944 - March 31, 1949, Department of Reconstruction and Supply, Ottawa, 1948, op. cit. pp. 22-23.
(2) See for example, House of Commons Debates, May 6, 1947, p. 2803.

appeared as a witness before the Special Committee on Prices.(1) In the same evidence Mr. Towers also dealt with the discussions of the Bank of Canada with the chartered banks as to the undesirability of financing capital development by the expansion of bank credit. These discussions brought out the important point that there was agreement between the Bank of Canada and the chartered banks that the current high volume of investment activity should to a larger extent be financed "from the savings of the people rather than through the expansion of credit".(2)

On the fourth point, the discrimination between consumer goods and capital goods in favour of the latter, criticism centres around the provisions of the Emergency Exchange Conservation Act, 1948.(3) It is based in some measure on a lack of appreciation of what the Emergency Exchange Conservation Act was designed to accomplish.

The main purpose of the Act was to conserve U.S. dollars. The way to accomplish this was to cut imports of what were considered to be non-essential or luxury types of goods. It was a simpler matter to designate non-essential consumer goods by reference to a particular commodity, say comic books, than to designate capital goods, say a fully-completed elevator, as non-essential. For example, the elevator might be needed for a plant or hospital the construction of which was considered essential. Or it could be used for an amusement building the construction of which could easily be deferred. For consumer goods the type of commodity was a determining criterion. For capital goods (and production parts and materials) their end use was important.

It was for this reason that a different approach was needed. As the Minister of Reconstruction and Supply emphasized, the basic approach in administering Schedule III was "not to discourage investment in Canada but to conserve U.S. dollars". With regard to capital goods (including production parts and materials) the saving of U.S. dollars was to be achieved through the principle of selectivity instead of prohibitions and quotas as applied to consumer goods. On this matter the Minister of Reconstruction and Supply

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(1) Minutes and Proceedings of Evidence, No. 64, Special Committee on Prices, May 27, 1948, pp. 3327 ff.
(2) Ibid., p. 3352.
(3) See, for example, Ottawa Government Helps our Capital Boom, by Clarence Barber, Saturday Night, November 6, 1948, p. 30.

observed: "We are . . . forced to consider our current investment boom, however desirable it may be from other points of view, as one of the chief contributors to our United States dollar shortage. The government must therefore take steps to regulate the huge volume of imports we are now making for capital investment purposes and to achieve a degree of selectivity in our future expansion. The guiding principles of this selectivity must be our immediate urgent necessity to conserve United States dollars, and our long-run necessity to earn more United States dollars. As I have mentioned before, such programs as low cost housing and industrial development, which will produce United States dollars, will have high priority, but much of our current investment for commercial, office, service and amusement purposes can and must be deferred. This applies equally to government public works, at all levels of government, which are not urgently essential in the public interest. Desirable as many of these investments might be in adding to the comforts and pleasures of living, we must temporarily forgo them in order to put the Canadian economy on a sound basis and to protect our standard of living for the future."(1)

On the fifth point, the criticism of the Government's housing policy has been varied and persistent throughout the post-war period. It has mainly centred around the argument that the number of houses built was insufficient to meet the current need, hardly ever on the point that the current housing program was too large and inflationary in its impact upon the economy. It is beyond the scope of this brief review to go into the details of the arguments which are contained in three debates on the amendment to the National Housing Act, 1944, which occurred in each of the 1946, 1947 and 1948 sessions of Parliament. It may suffice to note here that the main theme of the Government's response to most of its housing critics has been that the housing program insofar as it was war-engendered has been taken care of by devoting a significant portion of the country's capital resources to this purpose. The result was considered satisfactory since the number of housing units built in 1947 and 1948 was the largest number ever built in Canada and equalled or surpassed the housing accomplishments of most other countries of the world.(2)

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(1) Statement by the Right Hon. C.D. Howe, Minister of Reconstruction and Supply, House of Commons Debates, Daily Edition, December 17, 1947, p. 387.

(2) For statistics and [illegible], see Housing in Canada, op. cit. July 1948, and Housing Progress Abroad, Central Mortgage and Housing Corporation, Ottawa, December, 1947 and September, 1948.

The record of the Government's attitude towards private investment in 1945 and 1946 was on the whole expansionist and in support of a high level of private investment activity. During 1947 and 1948 this attitude changed into a conscious effort to slow down the rate of capital expansion rather than to force it down by drastic action. The confusion that exists today as to whether the Government's attitude towards private investment in the post-war period had inflationary effects or not is partly due to lack of understanding of the sequence of economic events and the policies they necessitated and partly due to the failure to give adequate publicity to the purpose and effect of Government measures taken in the private investment field in the first three years since the return of peace.

VII. POST-WAR INVESTMENT PROBLEM

What was the chief economic problem facing the Canadian economy at V-J Day, August 15, 1945? In retrospect the answer is: too many trying to do to much in too short a time. "Too many" includes consumers and businessmen, a few institutions and some governments. "Too much" covers plant, equipment, housing, motor cars, refrigerators, luxury goods and services wanted in Canada, and exports of basic and processed materials and manufactured goods wanted abroad. "Too short a time" refers to August, 1945, to December, 1948.

How well was the problem solved? The observations made below suggest that the answer is: reasonably well. Between 1946 and 1948 total output of the nation, in real terms, remained at high levels. At the same time it was possibl to increase notably the volume of investment, to raise slightly the volume of consumer expenditures, accompanied by a change in composition and to reduce moderately the volume of exports and government expenditures on goods and services. During the whole period high levels of employment and aggregate income were maintained. Prices of most commodities rose rapidly and at times outdistanced increases in earnings. In spite of this real incomes of the average Canadian wage and salary earners were only 4 per cent lower in 1948 than in 1946(1). But this had affected little the volume of consumer expenditures of the average citizen, who adjusted himself to these new conditions by saving less and spending more from current income. At the same time he embarked on large purchases - partly financed out of accumulated liquid assets - of consumer durable goods long deferred during the 'thirties and war years. The observation of the wellbeing of the "average" Canadian oversimplifies actual events, because some groups, e.g., farmers, businessmen and unskilled labour fared better than others, e.g., salaried personnel.

This report is concerned with one aspect of the post-war development only the importance of investment on economic activity and particularly on the general price level. In the preceding six sections the role and behaviour of investment, its demand on the supply of resources, its cost and impact on economic development and improvement of standard of living, its financing and execution in the light of a new set of attitudes on the part of business,

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(1) In the above comparison wage and salary payments have been used in preference to disposable income which in 1946 was heavily influenced by discharge gratuities and reestablishment credits to discharged service personnel.

consumers and governments, have been discussed. This section attempts: (a) to appraise the contribution of investment to inflation, (b) to take stock of the stage of capital development reached at the end of 1948, and (c) to assess briefly the outlook for the future. Before doing so a summary statement of the Canadian economic climate in the post-war period, referred to on several occasions in the preceding text, is desirable, for it is against the development of the whole that the role of a part - in this report it is investment - should be seen.

Economic Climate Leading to Investment Boom

Four aspects of the development are of significance - the international movement in prices since the war and their effect on Canada, certain readjustments in the cost-price structure which developed, the great increases in overall demand for the total gross national product produced in Canada, and the factors leading to an increase in the overall supply of goods and services available as final products to Canadians (see Summary Tables 75 and 76).

SUMMARY TABLE 75. - GROSS NATIONAL EXPENDITURE BY COMPONENTS, CANADA, SELECTED YEARS, 1939-1948.
(Billions of Dollars)

Item	1939	1945	1946	1947	1948
Gross Home Investment	0.9	0.6	1.8	2.8	3.3
Plant, Equipment and Housing	0.6	0.9	1.3	2.0	2.6
Inventories (1)	0.3	-0.3	0.5	0.8	0.7
Personal Expenditures on Consumer Goods and Services	3.9	7.0	7.9	8.9	9.8
Government Expenditure on Goods and Services	0.7	3.7	1.8	1.5	1.7
Net Foreign Balance	0.2	0.7	0.3	-	0.3
Exports of Goods and Services	1.5	3.6	3.2	3.6	3.9
Imports of Goods and Services	-1.3	-2.9	-2.9	-3.6	-3.6
Gross National Expenditure at Market Prices (2)	5.6	11.7	11.9	13.4	15.1 (3)

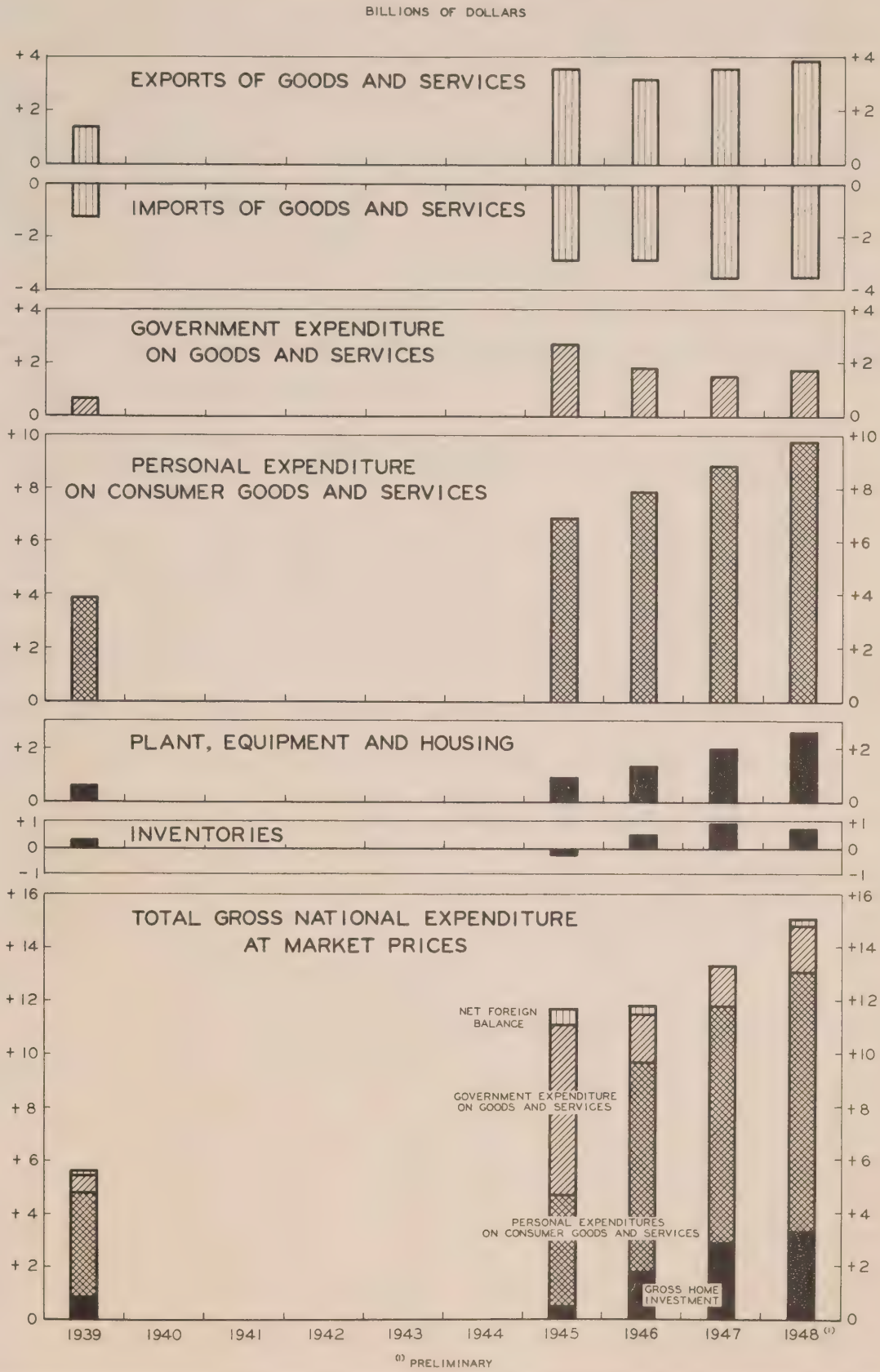
Source: For the years 1939, 1945, 1946 and 1947, from the National Accounts, Dominion Bureau of Statistics. For 1948 preliminary estimate, Economic Research Branch, Department of Reconstruction and Supply.

(1) Changes of inventories as defined in the national accounts, i.e., for the non-agricultural business sector, changes in the book value of inventories.
(2) Including allowance for residual error.
(3) Preliminary. The final figure is expected to be somewhat higher.

- FIGURE XIII -

GROSS NATIONAL EXPENDITURE BY COMPONENTS, CANADA,

SELECTED YEARS, 1939 - 1948.



(1) PRELIMINARY

SOURCE: SEE P. 201.

SUMMARY TABLE 76 . - CHANGES IN COMPONENTS OF GROSS NATIONAL EXPENDITURE, CANADA, SELECTED YEARS, 1939-1948.
(Per cent)

Item	1939-1945	1945-1946	1946-1947	1947-1948
Gross Home Investment	- 36	+ 216	+ 61	+ 16
Plant, Equipment and Housing	+ 56	+ 53	+ 55	+ 26
Inventories (1)	- 191	+ 256	+ 80	- 10
Personal Expenditures on Consumer Goods and Services	+ 80	+ 14	+ 12	+ 10
Government Expenditure on Goods and Services	+ 412	- 51	- 19	+ 13
Net Foreign Balance	- (2)	- 52	- 95	-(2)
Exports of Goods and Services	+ 146	- 10	+ 13	+ 8
Imports of Goods and Services	+ 118	- 1	+ 25	-
Gross National Expenditure at Market Prices	+ 109	+ 1	+ 13	+ 13 (3)

Source: Same as Summary Table 75.

(1) See footnote 2 to Summary Table 75.
(2) The percentage change is large but not very meaningful.
(3) Preliminary

One of the most important economic factors in the post-war situation was the world-wide inflationary pressure on prices. It would be a dangerous oversimplification to claim that any single factor was the prime or chief cause for this inflationary pressure. Rather it was a complex set of factors, nearly all of which were acting in the same direction. The sum total of all these pressures is the rise in prices which has occurred, the facts of which have been presented in considerable detail to the Special Committee on Prices of the House of Commons, and later to the Royal Commission on Prices.

(a) International Aspects

It should be emphasized at the beginning that the recent price increases have been encountered in every country in the world to some extent, and Canada is experiencing the same general movement in the level of prices as the rest of the world. As an important exporter and importer in the network of world trade, Canada could not isolate hereself from this world-wide development. To some extent price increases have been more moderate in Canada than in other countries. Increases in the Canadian wholesale price index and cost-of-living index from pre-war have been somewhat less than have occurred in the United States and the United Kingdom. In particular, prices and wage

rates in the United States had risen more rapidly during the war years and the first post-war year than in Canada. The adjustment processes that both countries had to undergo were therefore starting out from different plateaus (see Summary Table 77), and the important trading relations between them assured that the pull of high U.S. prices was felt in every segment of the Canadian economy.(1)

SUMMARY TABLE 77. - CHANGES OF COST OF LIVING, WHOLESALE PRICES AND GENERAL WAGE RATES IN MANUFACTURING, CANADA AND UNITED STATES, SELECTED YEARS, 1939-1948
(Per Cent)

Country and Index	1939-1945	1945-1946	1946-1947	1947 to July 1948	1945 to July 1948	1939 to July 1948
Canada						
Cost of Living	18.0	3.4	9.8	15.7	31.4	55.0
Wholesale Prices	37.1	4.9	19.5	17.6	47.5	102.2
General Wage Rates in Manufacturing	46.5	10.2	13.5	14.2	42.9	109.4(1)
United States						
Cost of Living	28.9	8.8	14.0	9.0	35.2	74.2
Wholesale Prices	38.2	13.8	25.7	10.8	58.5	119.1
General Wage Rates in Manufacturing	61.6	5.9	12.7	9.1	30.2	110.4

Source: Cost of Living and Wholesale Prices Indices, Canada and the United States from Monthly Bulletin of Statistics, Statistical Office of the United Nations, Lake Success, New York, October, 1948. Manufacturing wage rate index, Canada, based on hourly wage rates and obtained from Labour Gazette, September, 1948. Manufacturing wage rate index, United States, based on hourly earnings obtained from Monthly Labour Review. (The last mentioned two series are no strictly comparable and are therefore only illustrative of trends.

(1) Estimated.

These world-wide inflationary pressures affected Canada mainly in two ways first through increased prices of imported goods entering directly into the structure of domestic costs and prices, and secondly through higher prices on exports. Many key commodities imported into Canada have gone up in price and th enter into the domestic price structure whether the imported goods are finished goods or whether they undergo further processing and final assembly in Canada or

(1) For an appraisal of investment and price trends in the United States, see Appendix C.

not. Prices of American bituminous coal almost doubled from 1939 to July 1948, and significant price increases in iron ore and all fabricated iron and steel imports occurred also. Prices of these key commodities have an important effect on the whole price structure as they enter into so many finished goods and any price increases here spread through the whole price structure. Since the United States is Canada's largest source of imports, prices increases that occurred in this country, particularly after the removal of most American price controls in the summer of 1946, were of major significance. To some extent the impact of these increases on Canadian prices was eased by the revaluation of the Canadian dollar and the removal of the War Exchange Tax, but the price increases were so substantial that the impact was softened only - it could not be offset.

Higher world prices have also increased domestic incomes and prices through the sale of Canadian exports on world markets. Higher prices than pre-war for wheat and meat in the United Kingdom have forced the prices of a wide range of agricultural products in the home market up correspondingly. High prices for pulp wood, paper products and all types of lumber in world markets, and especially the United States, have forced up the prices of similar goods in the domestic market. These examples illustrate how significant the movement in world prices has been in increasing the Canadian price level through the influence of export and import prices. Policies can be and have been adopted to ease the impact of world increases on domestic prices, but world trade is too important a factor in the Canadian economy to prevent some resultant increases.

(b) Price Adjustments in "Short" Commodities

Upward price adjustments in some goods and services were to be expected with the gradual removal of direct price and wage controls, since the function of a price system is to encourage the movement of particular prices in the direction which will bring the supply of these commodities into line with the demand for them. Rising prices in particular sectors of the economy should encourage the movement of labour and materials into those fields, and where increased supplies of certain goods are desirable and somewhat higher prices wil encourage such an increase in output some price adjustments are desirable. It is not the purpose of this report to say what price increases are desirable for this purpose, or how big an increase in particular prices is necessary to

increase production in certain lines, but merely to point out that the operation of the pricing process will force certain prices up when these commodities are relatively scarce. Lumber can be given as an example in the construction field. The increased demand for lumber for the domestic housing and industrial construction programs and for the export markets could only be met by increasing the number of workers in the lumbering camps in the bush. The way that more laborers were drawn into this field was by higher wages and better working conditions. This led to higher costs in the industry and the industry was compelled to charge higher prices to achieve what they considered a desirable relationship between costs and prices. Many other examples could be given to show that certain price increases are desirable to increase output of certain commodities through shifts in the factors of production, but this reasoning should not be used to justify price increases which do not maintain or increase output, or which arise from speculation or "unreasonable" cost or profit increases.

(c) The Levels of Effective Demand

Turning to the domestic situation, an important factor in the recent price increases has been the existence of an overall "inflationary gap."(1) The inflationary gap can be defined as the excess in value of the expenditures that domestic consumers, capital investors, governments and foreign buyers plan to spend on goods and services in a certain year over what can be produced domestically or imported in that year with all available resources fully employed at the prices of the previous year. This high overall demand for goods and services relative to what can be supplied leads to a steady and persistent pressure on all prices in the economy, and a rise in the general level of prices is a symptom of this pressure. The analysis of this inflationary gap which follows outlines the various channels of expenditure which represent the demand for goods and services in the Canadian economy: (a) export trade, (b) private investment in plant, equipment, housing and inventories, (c) personal expenditure on consumer goods and services, and (d) government expenditure on goods and services.

The demand for exports has reached high levels as foreign countries, suffering from the general post-war devastation and reduced volume of domestic production,

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(1) The term was first introduced in the Budget Speech of the British Chancellor of the Exchequer, April 1941 in discussing the problem of war finance. Further discussion of this approach was continued during the war in both Great Britain and the United States in various economic periodicals.

have tried to increase available supplies by imports. The value of commodity exports from Canada has reached new record heights, but most of this increase arises from large increases in export prices. The volume of exports in 1948 is roughly one-third higher than it was in 1939, which is the smallest increase in the volume of any of the expenditure components, relative to pre-war. The direct upward pressure on domestic prices that resulted from the possibility of obtaining high prices in foreign markets would therefore appear to have been more important than the effect of the increased volume of exports on domestic supplies.

The demand for gross private investment in plant, equipment and housing has increased more than for any other component of expenditure. This component is a much larger proportion of gross national expenditure at market prices than in 1939. The levels of wages and material costs going into the investment program have gone up more than have prices of other expenditure components in the domestic sector. In spite of the higher prices of durable physical assets, there has been an increase in the volume of gross investment in this field to about double that of 1939. This is a substantial increase and could only come about because businessmen were optimistic in their expectations of future returns from such investment, and were attempting to improve their capital equipment rapidly after some deterioration in the depression of the 'thirties and the period of wartime curtailment of private investment.

The demand for consumers' goods and services is the largest single component of gross national expenditure. Personal expenditure on consumer goods and services increased from $3.9 billion in 1939 to $9.8 billion in 1948, an increase of 155 per cent. During the same period the cost of living index went up 55 per cent, which may be used to assess the importance of price increases in this component. The volume of goods and services purchased by persons increased about 70 per cent above pre-war, which is an increase of approximately 50 per cent in the volume of goods and services purchased for consumption purposes per capita. These statistics suggest that volume increases were even more important factors than price increases in explaining the large increase in total consumer expenditures. This high level of expenditure for consumer goods by persons reflects the desire of the personal sector to maintain the high standards of living slowly built up during the last

nine years. At the same time consumers were experiencing high levels of personal disposable income and had relatively large liquid assets in the form of cash, deposits and government securities to make these demands effective in the market. During 1947 and 1948 indications have appeared that consumers are trying to maintain this high level of expenditure at the expense of personal savings, e.g., some reductions in personal holdings of government securities have occurred and consumers have begun to purchase more goods on charge accounts or on instalment credit. Data available for 1948 are preliminary and do not allow more than a tentative observation. The volume of consumer expenditures in 1948 appears to have changed only little from the peak reached in 1947. Since the population increased this suggests a moderately lower volume of per capita consumer expenditure. In spite of this, the desire for higher living standards, associated with the purchasing power in most sectors of the economy to make this desire effective in the market, has been important in creating a high level of demand relative to the supply of goods and services which can be produced.

In considering government expenditure, it should be borne in mind that total government expenditures are of two main types: (1) expenditures on goods and services, which represent the using up of some of the total annual output of the economy, and (2) transfer payments which do not involve any direct use of resources by the government. Examples of the latter are family allowances veterans' benefits, and a portion of the interest on the public debt. In considering direct government demand for goods and services only the first type of expenditure is relevant. In 1947 and 1948 government expenditure on goods and services constituted a smaller proportion of gross national product than in 1939. Average earnings in government have increased less than in most industries or in the economy as a whole and the volume of resources used by the three levels of government has increased less from pre-war than the volume of gross home investment or consumer expenditure. The Dominion government, in particular, has restricted the amount of expenditures on construction and equipment, "partly because of the high cost of such work under current conditions but more fundamentally because of its desire to keep excessive national expenditure within bounds and to defer wherever possible the construction of useful projects

until the time when private expenditure will be lower and additional government work will help to maintain employment and income. (1) But for this restriction in public investment expenditures and the large government surpluses of 1947 and 1948, prices would have risen even more than they actually have.

(d) Increases in Overall Supply

The output of finished goods and services has increased greatly from prewar, but the increase in demand has been so great that even with the high levels of employment and output currently being attained there is an inflationary gap which is reflected in higher prices. The current level of gross national product (after taking account of changes in the level of prices) is approximately 80 per cent above the peak years 1928 and 1929, and about two-thirds higher than the year 1939. Moreover, this volume of output was only achieved by working at a high level of capacity in many industries, and with a high proportion of the increased civilian labour force employed. All indications are that in the current high level of employment only slow and relatively small increases in the total volume of output can be expected.

The most important cause of this increased volume of output was the increase in employment and the civilian labour force which has occurred since 1929. Civilian employment and the civilian labour force are somewhere between 25 and 30 per cent higher in 1948 than they were in 1929. The labour force has risen with the increase in population and its changing age distribution. Although the average age of leaving school has increased, and the usual age of retirement is being reduced, a larger proportion of women are seeking employment than before the war. At the same time, the number of hours worked per week has dropped from prewar.

There has also been an increase in output per man-year employed of some 2 per cent per year, most of this increase occurring in the industrial sector. This increase is close to what has occurred in Great Britain and the United States over the past half century and reflects slow but steady technological progress arising from new inventions and new processes being developed in various industries, and increases in the use of hydro power. Significant improvements in capital equipment have also occurred.

Output in agriculture - a special case because of uncertainties of natural forces and substantial price fluctuations of its products - has not increased as much as output in other industries, and farm employment has declined somewhat over

(1) Budget Speech, by Hon. D.C. Abbott, House of Commons Debates, May 18, 1948, p. 4056.

the past twenty years. Net income of farm operators from current farm production is much higher at present than any prewar year and conditions have improved markedly over the 'thirties, but the proportion of such farm income to net national income at factor cost has fallen from a previous high of 15 per cent in 1928 to 11 per cent in 1948. This slower expansion in agricultural output, employment and income relative to the economy as a whole is a development noticed in many other countries in which rapid industrialization occurred.

Has increased overall supply (from domestic output or higher imports) led to any easing of the inflationary pressure over the last three years? Inflationary pressure remained strong throughout the period although in varying degree.

There was an increase in the number employed from 1946 to 1948. Primarily this arose from the natural increase in the population of working age but immigration was also important, more particularly in the last year. The number unemployed fell somewhat after the post-war readjustments were complete so that by September, 1948, the percentage of the labour force unemployed was down to 1.3 per cent for Canada, as compared with 2.3 per cent two years ago. This is just about the minimum unemployment that can be achieved, as there is always some time lost in transferring from one job to another. Increases in the number of employed contributed to a rise in demand for consumer goods through the earning and re-spending of their incomes. With the prevailing patterns of income distribution and consumer spending only a fairly small proportion of such increased output represented a net addition to the supply available to meet the levels of consumer and investment demand already present. Levels of output per man in the immediate post-war period in a number of industries remained below pre-war as shortages of many basic and intermediate materials led to some interruptions in output in certain industries. Some temporary dislocations also occurred in shifting from items of war production to civilian demands. In certain cases the amount of capital equipment available per worker was too low for a high level of output per worker. Although the value of imports increased in 1947 in particular, quite a portion of this was associated with higher prices. This level of imports provided certain important commodities for the domestic market, but the overall volume of imports could not increase greatly because of general world shortage of many of the items required, and the foreign exchange problems that became particularly acute in Canada towards the end of 1947.

While increases in overall supply in the immediate post-war period were moderate for the reasons given above, the level of output achieved in 1948 relative to pre-war was significantly higher. However, the levels of demand had increased even more substantially and this led to continued inflationary pressures on prices and wages throughout the system. This high level of demand encouraged businessmen to expand output through increases in capacity and greater mechanization.

It was in this economic climate of high employment and almost unlimited demand for many key commodities in Canada from 1945 to 1948, and exposure to world demand and prices, that an investment program larger in size than any previous program was attempted, and in fact carried out. This could not be without impact on prices - but the question is how significant was investment as a factor contributing to inflation.

Investment and Inflation

Effect of Present Program on Prices

What effect has the investment program of the last three years had on prices in the Canadian economy? In brief, the investment program has contributed, together with other factors, to the general inflationary pressure on prices. There is little evidence to justify the claim that capital expenditures were the only factor or even the major factor leading to the price increases which occurred in Canada in the last three years.

Investment affects prices through three different channels - the direct effect of investment on the demand for goods and services, the secondary effect on consumer demand, and its short-run influence on the supply of goods and services.

How significant was investment as a factor directly influencing the price level in 1948 through the demand for goods and services? In the current year gross investment in durable physical assets is expected to be of the order of $3 billion, or about 20 per cent of gross national product of over $15 billion The number of workers employed in Canada in capital goods industries and in the industries supplying these with materials and services comprises about 15 per cen of the labour force. The reason for the difference of the two percentage figures is the fact that a significant part of machinery and equipment and some materials and parts going into domestically produced capital goods are imported. The level of investment, high though it is by many standards, is not a large enough segment of the total economy to be the major force in the increases which have occurred in the cost of living.

It is more difficult to assess the other less direct effects of the investment program on demand in other sectors of the economy, particularly the secondary effect on consumer expenditure on goods and services. As has been indicated earlier (Section IV), secondary effects of investment expenditures may be significant as a factor contributing to an increase in the volume of employment and income in times of low levels of economic activity when there are idle resources in the country. But this was not the situation when the war ended. What in fact happened was that private investment gradually took the place of contracting direct government expenditures on goods and services. Under these conditions the expansion in investment from 1945 to

1948 should not be regarded in the main as a total net stimulating addition to the economy, but largely as a transfer of demand from government war and rehabil itation uses to private investment. Sections II and III have discussed in detai how this has taken place without serious dislocations or disturbances. Looked a in this light, the expansion in private investment does not appear to have playe a major role in adding further to the high levels of consumer expenditure alread achieved in 1945.

Has the high level of investment demand reduced the supply of goods available to meet the high level of consumer demand? Even during the war a slow but steady increase in the volume of consumer expenditures occurred. This trend continued until 1947 and it was only in 1948 that it levelled off. There was some increase in total output in 1948 over 1947 but the expansion in investment in durable physical assets was continuing sufficiently rapidly to take almost all of this increase in output over 1947. Final data when they become available may even show that it may have taken even a little more than the increase in total volume. It was then only in 1948 when the investment boom was reaching record proportions that it largely prevented other sectors from participating in the increases of output that became available. As the levels of demand from consumers, Government and foreign markets were still high, the predominant role of investment led in this year to some increase in the inflationary pressure in the other sectors. As indicated later, the rise in investment will permit further increases in real output in most industries including the consumer goods and export fields in the near future.

In these three ways the increased volume of investment has exerted pressure on the general level of prices. The most direct effect has been on higher prices of machinery and equipment, and higher construction costs. The same forces have increased prices of consumer durable goods. Price and wage increases in any sector of a full employment economy have a tendency to spread to other sectors, and in this way the investment program has had some influence on, say, the official cost of living index. However, it would be misleading to claim that investment has been the only, or even the most significant, factor in the increases in the cost of living index which have occurred since 1945. The effect of high world prices appears to have been even more significant, and the continuing strong demand for consumer goods and services has also been important.

Effects if Investment Program Had Been Smaller

How different would the movement in prices have been if the investment program had been smaller in 1948 than in fact it actually was? Any small decline of, say, 10 per cent would have had little effect. Any large cut would not have been feasible without detrimental effects on the economy as a whole.

Investment in durable physical assets, 10 per cent smaller than was actually undertaken, would have meant about $300 million less in 1948. The direct effect of a curtailment of this order, disregarding any changes in the levels of demand in other sectors, would have had only a slight effect on prices of capital goods. The inflationary pressure in the investment sector was so strong and shortages of key materials were so persistent that even a moderately smaller program would still have led to increased prices in this sector, although the increase would not have been quite as much. The increase would have been only five per cent or so smaller since the increase in prices of machinery, equipment, parts and materials imported from abroad would have been just as great and the slower rate of price increase would apply only to domestic production. Also, the pull of higher foreign costs, particularly those of the United States, would have been an inducement for domestic producers to follow the lead even under somewhat less pressure. In the light of this an increase of over-all investment costs of 5 per cent less than actually occurred would have been quite a notable achievement if associated with a 10 per cent decline in the volume of investment.

Would the secondary effects of this somewhat smaller volume of investment be great enough to initiate a general decline in employment, incomes and consumer demand? From all indications it would appear that the levels of deferred demand and the amount of liquid assets held in other sectors of the economy were so great during 1948 that the composition of total demand might have been changed, but the total level of demand would still have led to inflationary pressures. For example, the strong demand for consumer durable goods would partially replace the demand for capital goods. Many export orders with steel as basic materials had to be turned down. Had the domestic investment program been curtailed some of the steel and other materials in short supply, together with some of the available heavy labour, would have gone into export industries. This analysis suggests that the levels of demand in all sectors

were so high that any curtailment in one sector in isolation would be largely offset by expansion elsewhere, and the inflationary pressures could not be controlled by acting on any one single aspect of the problem.

It is interesting to ponder on what would have been the effect of a 10 per cent decline of investment on the official cost of living index, which in November, 1948, was at about 160 (1) or 11 per cent higher than a year earlier. One impact could have been lower costs of consumer durable goods, assuming that these would have been affected to the same extent as capital goods prices suggested above. However, since the weight of consumer durable goods in the official cost of living index is only 6 per cent, a 5 per cent reduction of cost of consumer durable goods would have brought down the cost of living index by only less than one-half of 1 per cent. Food and clothing items, whose weight is 43 per cent, increased by 18 and 12 per cent respectively during the last year. But since domestic prices of these commodities were largely determined by world prices they continued to rise in over-all terms - in spite of a break in agricultural prices in the United States early in 1948. A decline in the domestic investment program, even allowing for some of the secondary effects, could hardly have offset the strong pull of world prices for these commodities. Another large factor in the cost of living index is rent, whose weight is 19 per cent. A general reduction of the investment program by 10 per cent would have meant some 8,000 to 9,000 fewer houses built in Canada. This would have increased the pressure for housing accommodation and might have increased the average rental payments for that sector of the housing market that was not fixed on the basis of previous rental levels. However, since the rental index is heavily weighted for old housing units with fixed rents it shows little flexibility. Nevertheless fewer new houses would have meant heavier pressure on the housing market and as a result the rental index would likely have been slightly higher in 1948 than was actually reported in that year. The remaining 32 per cent of the cost of living index is represented by a miscellaneous array of goods and services, few of which would be directly affected by any cut in the investment program and only some slight indirect effects would have been likely in view of the strong demand for most services.

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(1) Base: 1935 - 1939 = 100.

In the light of these considerations it would have been surprising if a reduction in the volume of investment of 10 per cent would have affected the cost of living index by more than 2 or 3 per cent. This appraisal, as tenuous as it must be, is just another indication of the fact that aggregate demand in 1948 in other than capital goods fields was so strong that any measures taken to curtail investment alone and leave other forces free rein would have meant little easing of the inflationary pressure.

An attempt to cut the investment program by a substantial proportion would have been hardly feasible in view of the extensive requirements for capital goods. These were urgently needed to meet the high level of demand on all fronts. But had an attempt been made to cut the volume of investment substantially, this would have meant a serious dislocation of industry, a certain amount of unemployment in particular fields, a decline in income for those affected, and higher prices because of world pressures and domestic shortages. It would probably have led to a decline in output of the nation as a whole and a lowering of the real standard of living.

What then could have been done to prevent the impact of investment on inflation? Since as suggested above, control of the volume of investment alone would not have made a significant or practical contribution, the answer is that a much wider and varied system of directive measures would have been required covering prices, wages and allocation of resources in the key sectors of the economy. Whether such a system would have been acceptable to the public and how great the difficulties would have been in administering such a scheme in peacetime are questions which go beyond the present inquiry.

In appraising, therefore, the inflationary tendency of the post-war period and what might have been done about it, account should be taken of the situation as a whole. In the first three post-war years the Canadian economy was dominated by high levels of employment and income, with relatively little distortion of the structure of prices although fairly large increases in prices occurred. In this situation attention should be directed to the high levels of demand prevalent in <u>all</u> sectors, and too much emphasis should not be put on any particular sector of the economy in isolation. To put it briefly, there is <u>no single</u> or <u>simple</u> factor that can be blamed for inflation.

Stock Taking of the Investment Boom

At the end of 1948 the post-war investment boom was over three years old. What stage has been reached, and what has been accomplished in this period?

1. Pattern of Investment Cycle. Unlike some previous investment booms which gathered speed as they developed, the investment boom following World War II started out with a bang, slowing down in the rate of expansion in each succeeding year. The increase in the volume of investment in durable physical assets was 36 per cent in the first post-war year, 27 per cent in the second, and about 10 per cent in the third. Although the data on inventory changes are less firm, they suggest a similar pattern in terms of volume increases. This gradual slowing down suggests the reaching of a high plateau, from which further small advances are possible but some declines in the not too distant future are more likely in the absence of special counteracting circumstances (see section on the short term outlook below).

2. Factors of Production. Supply of some of the factors of production has been increasing at an even more rapid rate than aggregate investment demand. As a result inventories in a few lines (e.g., building materials like roofing and insulating materials) increased significantly resulting in cut-back of output. In other lines shortages continued, particularly commodities with a steel content, mainly because of the inability to obtain the required basic materials. Attempts to replace steel with other materials had only partial success and the demand for steel remained as heavy as ever. As the process of supply catching up with demand continued on item-to-item basis many shortages had disappeared by the end of 1948 or were in the process of disappearing. Of those items continuing in short supply materials requiring steel appeared likely to remain the last on the shortage list. The labour force in the machinery and equipment sector of investment had been large enough at war's end to cope with orders for capital goods, but the construction industry was in need of rapid expansion. This expansion took place most rapidly in the first post-war year, 30 per cent, slowing down in the second year, 10 per cent, and speeding up a little in the third year, 13 per cent. A general low level of unemployment was associated with some labour surpluses in certain localities in 1948, but shortages existed in other localities, particularly with regard to special types of skilled tradesmen, e.g. plasterers and bricklayers. As the labour force became more abundant in 1948,

some builders found it possible to dismiss incompetent workers, with salutary effects on productivity. This problem of a labour force sufficiently large in aggregate to cope with demand in overall terms, but not always in the place or with the skill required, is one that will accompany the investment program beyond 1948.

3. Costs. Because of the pressure of demand on supply, investment costs have risen rapidly in the post-war period, though at an uneven rate. In the first year, when most price controls were still in existence, building material prices rose slowly, 5 per cent. In the second year, with most controls being removed, prices moved up much faster, 24 per cent. In the third post-war year, as supply started to catch up with demand, the rate of increase slowed down again, 17 per cent. Wage rate increases in capital goods industries and prices of materials and equipment items followed a broadly similar pattern. In 1948 investment costs increased at a slower rate, not only because prices of the factors of production increased at a slower rate, but also because some slight improvement in the output per man-hour occurred, large capital expenditures made in the first two post-war years began to pay off, and more competitive bidding became apparent.

4. Economic Impact. In 1948 the effect of capital expenditures on plant and equipment made in the two preceding years became more apparent in an increased volume of output. The volume of output is expected to increase even further in 1949. This may contribute to an easing of inflationary pressures so strongly entrenched in the Canadian economy in the first three years of peace. Housing investment was a special case. While a record program in the first three post-war years met a large portion of effective demand for new home ownership housing, comparatively little progress had been made by the end of 1948 to meet the housing needs of that part of the population which could not afford minimum standards of housing accommodation at prevailing costs relative to their incomes.

5. Financial Aspects. Even after three years of large capital expenditures no great difficulties were encountered in financing the investment program. Even a tightening of the conditions of borrowing in 1948 proved no deterrent to business capital expansion. One of the reasons for the financial strength of business undertaking investment projects was the practice of plowing

back into the business large portions of retained earnings. Substantial profits made in 1948 and comparatively moderate increase in dividend payments - where these occurred - held promise for a continuing ability on the part of business enterprises to look after a large part of their own financing. Savings of individuals declined, as a larger proportion of income was used to purchase consumer durable goods, and to meet current living expenses in those cases where rising prices remained ahead of changes in income. But the most remarkable aspect of the investment boom and the general high level of economic activity was the absence of any large measure of speculation on the security markets by either businessmen or individuals. By the end of 1948 there was still no immediate sign of a reversal of this attitude of caution which accompanied the post-war investment boom during the first three post-war years. Most businessmen and individuals combined measured optimism with the realistic attitude that things could get worse. There was little evidence of the feeling of "permanent prosperity" so characteristic of the over-optimism of the late 'twenties.

6. Role of Government. In this period of imbalance between supply and demand and strong inflationary pressures, the role of government was a particularly delicate one. There were international obligations to be fulfilled if Canada was to maintain her position as a middle power. The high levels of employment and income achieved in Canada at war's end and the standard of living associated therewith had to be protected. Measures which would have meant too strong a dose of deflation, e.g., maintenance of high war income and excess profit tax rates, might easily have had an adverse effect on levels of employment and income actually achieved in the three post-war years. On the other hand, the absence of measures to assure adequate supplies at home and to prevent price excesses would have meant a much higher degree of inflation than in fact occurred. There was then the need for government policies which would avoid both extremes, neither contributing to a lowering of employment and income, nor encouraging price excesses and speculation. The historian several years hence will be in a better position to appraise the effect of government policies on the development of the Canadian economy in the post-war period. The record so far supports the contention that high levels of employment and income and standard of living prevailed in the post-war period and that, in spite of rapid price increases, harmful price excesses and speculation were on the whole avoided.

Investment Outlook

The outlook for investment is largely guided by future economic developments at home and abroad. An outstanding feature of domestic developments is increased capacity of the Canadian economy, which, if fully used, should contribute to higher real incomes for the Canadian population. In the first place it seems likely that improvement in industrial productivity resulting from technological advances would be accelerated in the years ahead. This would result from the application of new processes and techniques discovered during wartime but which cannot be fully exploited till later. The capital investment boom now in progress embodies much in the way of improved methods. Even where no technological advance is involved, increased reliance on capital goods together with replacement of old plant and machinery by new should result in improved efficiency. For these various reasons the extensive capital expansion now under way can be expected to result in a significant increase in output per worker during the years ahead. Population during the next four years will also be a significant factor affecting the production potential of the economy. Assuming a continuation of the present policy of selective immigration, an annual increase in the labour force of between 2 and 3 per cent per year can be expected. As a partial offset to these influences operating in the direction of a higher absolute volume of production is the long run trend toward shorter working hours. This factor may be of only minor significance provided market conditions continue buoyant. On balance it appears reasonable to expect that by 1951 the productive capacity of the economy will have increased by something like 10 to 12 per cent over the present level. Whether or not this productive capacity is fully utilized will depend to a large extent upon the complex of world conditions as they develop in the intervening period, and on domestic policies contributing to the maintenance of high demand at home. A continued high level of demand by governments for goods and services and a continuing desire by consumers to maintain a high volume of purchases, bolstered by the still high level of liquid assets, are signs of continuing strength, at least for the immediate future. It is against such a background that future levels of investment should be appraised.

Has the post-war investment boom reached its peak in 1948 or is it continuing? Tentative as the answer must be, available evidence suggests three

things: (a) some of the sectors of the investment boom have shown definite signs of levelling off or declining, e.g., manufacturing or some primary industries, (b) other sectors show continuing strength, e.g., certain utilities, commercial and service groups, institutions and direct government, and (c) still other sectors have reached such high levels in the light of present cost that a decline in volume could be expected although there is little concrete evidence of this so far, e.g., housing.

Taking account of the various forces at play, the post-war investment boom in aggregate appears in volume terms to have come close to a peak in 1948. Whether this represents the actual peak for the immediate post-war period or whether this peak may still be one or two years away depends on whether the strength of the sectors still continuing in an upward direction can offset those that appear to have lost a great deal of their initial impetus.(1) There is an important qualification to this diagnosis. The real unknown is the Canadian contribution to Atlantic security in terms of industrial manpower, equipment and supplies. Requirements of a preparedness program may not show up in the traditional definition of investment, although they may have similar effects on economic activity. For example, the building of a corvette in Canada, financed with Canadian credits and then turned over to a friendly nation, may have similar direct employment and income effects to the building of a bridge in this country. Parts produced for an American armament manufacturer may have the same direct employment and income effects as tools produced for use in the Canadian investment program. The corvette and the armament parts would appear as exports while the bridge and the tools would be classified as domestic investment in durable physical assets. Here then is not only an important economic consideration but also a statistical problem that may cloud the meaning of when the investment boom reached its peak and when it turned.

It must be remembered that the rapid rise in investment activity beginning in 1945 was made possible by the contraction of Government expenditures, a large portion of which was spent for industrial purposes serving military ends. The resources devoted to this purpose were found easily transferable to serve the peacetime investment program. A similar situation in

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(1) This appraisal does not preclude the possibility that the post-war investment boom may at a later date be followed by a rearmament or general economic development boom which would by far surpass achievements in the <u>immediate</u> post-war period.

reverse may arise again. If a significant preparedness program gets under way in the next few years in Canada serving in part Canadian domestic needs and in part designed to bolster the defences of the Atlantic nations, it may take up any of the slack in the system developed as a result of the contraction of business and other investment serving purely civilian needs.

Since it may take several years before the economic preparedness program reaches significant dimensions - likely only if international relations continue to deteriorate - and since there are continuing signs of strength in the investment boom serving peacetime purposes, it is best to appraise the outlook separately for the short term, say two or three years, and for the long term, the period beyond 1950 or 1951.

Short Term Outlook

The next two or three years are likely to see a continuation of the high plateau of investment in aggregate reached in 1948 although there might be a notable change in the composition of the program. Even if the decline in some sectors should outweigh the growth in others, no rapid over-all decline need be anticipated. In the individual investment segments, differences in strength that exist are likely to become more apparent than they are today.

The brief survey given below, which is based on whatever factual information is currently available, should not be considered as a forecast but rather as an appraisal of presently foreseeable trends which force of circumstances may change, e.g., speed-up of a preparedness program or a considerable freeing of international trade, which in an atmosphere of genuine peace would provide new stimulus to industrial expansion all over the world.

1. Manufacturing. A decline in volume of manufacturing investment had been anticipated for 1948 as compared with 1947, but with a rally in investment becoming apparent at mid-year the volume of manufacturing investment in 1948 is expected to differ only little from that accomplished in 1947. New impetus to manufacturing investment was given in 1948 through the efforts of industry to expand production in such fields where Canada had been depending on imports from abroad or where new expansion appeared to be justified in view of Canadian efforts to stimulate greater use of domestic natural resources (see purpose of administering of Schedule III of Emergency Exchange Conservation Act discussed in Section VI). Further, the branch plant movement both from Great

Britain and the United States achieved new impetus in 1948. The contribution to manufacturing investment from this source is likely to continue for some years. Also, the stepped-up rate of immigration in 1948 - likely to continue for some time - has brought to the country not only new skilled workers but also entrepreneurs and professional persons who have given and are likely to continue to give new impetus to the expansion of Canada's secondary industries. Since a large part of the pent-up demand for investment for manufacturing purposes appears to have been met, the major strength of manufacturing investment, quite apart from the large and continuing program of improvement and replacement, is likely to come from the establishment of new industries and the introduction of new production methods and commodities. On balance manufacturing investment should reach a moderately lower level in the next two or three years.

2. Primary Industry and Construction Industry. Certain sectors are showing continuing signs of strength. Farmers, who in the post-war period have been one of the most prosperous groups in the community, are continuing to press for available farm implements and equipment. But since agriculture is an industry in which changes of the economic outlook are particularly rapid, the present high demand may continue during the next two or three years but would be more vulnerable beyond this than almost any other sector of the primary industry group. Other signs of continuing strength are the oil developments in Alberta and the iron ore developments in Ontario, Northern Quebec and Labrador. Weakening of investment demands is likely in most base metal and non-metallic mineral fields with a continuation of the low level of investment activity in gold mining, which considers itself a depressed industry. Lower mining costs or a higher price of gold would change the investment situation in this industry almost overnight. Investment in woods operations, which is governed largely by export prospects, may tend in a downward direction should the uncertainties about foreign markets for some forest products - becoming more pronounced in 1948 - continue and extend to other segments of the field. The construction industry also seems to have reached a high point in capital expenditures. On the whole, primary industry and the construction industry are likely to follow a pattern similar to manufacturing investment in the next two or three years.

3. Utilities. One of the largest elements of strength in the investment situation over the next two or three years lies in the utility field. Some

segments may even continue strong beyond the near-term period under discussion here, e.g., hydro development, telephones and railways. Other fields in which a lower level of investment activity is a possibility include broadcasting, motor carriers, air and water transport serving solely civilian purposes. But even in these fields the situation may be reversed. For example, the introduction of television into Canada would involve substantial investment expenditures and would show up in an increase of broadcasting investment instead of a decline or levelling off as is anticipated currently. Such large projects as the St. Lawrence waterway, which would include both power and transportation development, may affect for several years the entire plateau of investment demand coming from the utility group. On the whole, this sector is likely to remain at high levels over the next two or three years.

4. Investment in Commercial, Merchandising and Service Groups. This group is another field where divergent trends are likely to become more clearly apparent. Such enterprises as large department stores, wholesale houses, warehousing and service facilities like laundries and dry cleaners may show a levelling off and in some instances a decline in demand for new capital facilities. Other sectors such as the recreational and amusement field and service establishments like garages catering to the expanding number of motorcars coming into use are likely to continue at high levels of demand, with increases quite probable in some sectors. The outlook for office buildings and hotels, which involve large capital expenditures, is somewhat more uncertain. There is little doubt about the current need for substantial additional investment in these sectors, but caution on the part of investors may keep the level of expansion in this segment at lower levels than economic conditions might warrant. On the whole, the elements of strength in the commercial, merchandising and service groups may for the near future outweigh the elements of weakness and prevent any significant decline. Speaking in relative terms, this group should provide for a stronger investment demand than the manufacturing and primary industries, but probably not as strong as the utility group.

5. Investment by Institutions. This group, which includes investment in hospitals, universities, schools and churches, has a large backlog to make up and on the whole is likely to be a strong factor over the next two or three years.

6. Investment in Housing. There is little doubt that there is a sufficient demand for housing to keep this industry going at full speed for the

next few years. The main question, however, is: When will the point be reached where rising building costs will make a large portion of existing demand ineffective because of the growing difference between personal income and costs? Also, the industry has in the first three post-war years catered largely to the needs of those who could afford high priced housing. Unless ways and means are found to tap large segments of income groups hitherto not in a position to acquire or rent new housing, the duration of the privately financed segment of the housing boom is in sight. However, a levelling off of building costs, coupled with a continuation of present high income and employment together with increased Government, financial and other assistance, would tend to prevent any significant changes in the aggregate volume of housing investment over the next two or three years.

7. Direct Government Investment - Civilian Type. A large backlog of Federal, provincial and municipal public projects exists. Many of these projects could be undertaken should aggregate investment demand in the non-Government sectors decline. In view of the declared intentions of the Federal Government to pursue an anti-cyclical investment policy (see Section VI), increased Government investment outlay is likely in case of a decline in business investment. However, the expansion of public investment may proceed at a slower rate than the contraction of private investment.

8. Preparedness Program. This program would in some part contribute directly to domestic investment as defined in the study, but possibly an even greater part may never appear as investment activity but be considered as supplies to the armed forces and exports, if shipments are destined for nations associated with Canada in a security pact. As indicated earlier, acceleration of this program is likely in view of the continuing strained international relations

9. Inventories. The outlook for inventory accumulation in the non-agricultural sector for the near future is one of continuation of the present cautious attitude on the part of business. In national terms the annual rate of inventory accumulation should decline. In the agricultural sector, weather and other natural factors and foreign demands remain the two main variables effecting changes in the volume of inventories.

10. Aggregate Investment. Allowing for the various forces tending in different directions, aggregate investment in its broadest sense, that is,

including expenditures under the preparedness program, is likely to remain at high levels over the next two or three years. This appraisal is subject to the qualifications referred to earlier. It is not designed to suggest more than that there are elements of strength which, barring unforeseen circumstances, would tend to keep investment at high levels. A serious decline in Canadian exports would be one instance that could depress the level of business investment in a comparatively short period of time. The judgment expressed here about the likely course of investment in the next two or three years should also be seen within the framework of economic development in the country as a whole, for investment, perhaps more than any other economic flow, is greatly affected by the economic environment and the business outlook. It is like a sensitive barometer that reacts rather violently to changes in the weather.

Long Term Outlook

Any attempt to look beyond 1950 or 1951 is of necessity shrouded in much more uncertainty than an appraisal of the short term outlook. Several broad observations can be made.

1. Investment Fluctuations. Fluctuations of the level of investment have been observed on the North American continent for as long a period as records are available. They are likely to continue in the future. The most that can be hoped for is to avoid some of the substantial fluctuations which have occurred in the past. The question of stability in the investment field is not a question of preventing fluctuations but rather one of reducing the degree of changes and mitigating the impact of such changes on levels of employment, income and prices. It is almost certain that such attempts will be made in the future both in Canada (see Section VI) and in the United States (see Appendix C).

2. New Investment Demand. The Canadian economy is a growing economy. In 1948 the labour force increased by about 100,000 workers and net family formation by about 80,000. To provide new workers with capital equipment commensurate with Canada's advances as an industrialized nation may require about $250 million a year, to find new homes for 50,000 families (assuming that the remaining two-fifths would choose voluntary doubling-up) will involve an expenditure of some $350 million, and to supply these families with additional community, institutional and service facilities perhaps another $100 million. Population

increase alone, as long as it continues at the 1948 rate, would mean an additional capital expenditure of $700 million (in 1948 prices) as long as an attempt is made to maintain high living standards in Canada. In this respect the outlook differs somewhat from that of the United States, where a relatively smaller population increase is expected than in Canada (see Appendix C). In addition, investment decisions of industries catering to the needs of population additions would not remain unaffected by the fact that the domestic market is continuously expanding. Quite apart from net additions to investment, there would also be a substantial program of replacing worn-out and obsolete capital equipment.(1)

3. Economic Development and Industrial Research. Industrialization of the Canadian economy has proceeded at a rapid rate in the last three decades. This trend is continuing. The more advanced processing and fabricating capacity is introduced in Canada the greater are the capital requirements. Industrial research, which has been of increasing importance to Canadian business men, is likely to become even more important in the future. The advantages in obtaining technical know-how and the results of advanced research both from the United States and the United Kingdom for use by Canadian industry, coupled with original domestic advances, are promising signs for future economic development in Canada. There is also increasing evidence of Government encouragement to peacetime industrial development.(2)

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(1) In the United States it has been estimated that about two-thirds of gross capital formation over a long period of time is employed in maintaining capital goods and in offsetting depreciation and depletion and that only about one-third is used in making net increases in the stock of capital goods (Capital Formation and the Equity Market, by Winthrop W. Aldrich, New York, November 22, 1948, p. 7).

(2) The Government's attitude towards industrialization of the Canadian economy and greater use of domestic resources has been expressed in the following set of principles (statement on Industrial Development in Canada, by the Right Honourable C.D. Howe, Minister of Trade and Commerce, Public Affairs, Dalhousie University, Fall 1948): "(1) Canada is a free enterprise economy and the initiative for industrial expansion rests with private individuals and firms. (2) The Government will, through its policies, endeavour to create a climate within which private initiative thrives and industrial expansion is encouraged. (3) The Government will take the initiative and do what it can to coordinate the efforts of governmental, business and other interested groups in achieving full and effective utilization of industrial expansion in the interests of all citizens in the country. (4) If industrial expansion and economic development is hampered by the lack of initiative the Government will, where the national interest demands, take appropriate action."

4. International Trade. Efforts to liberalize and stabilize international trade - even if progress is slow - are likely to have salutary effects on investment decisions.

5. Preparedness Program. Investment for security purposes is likely to loom larger in the future than it has ever done before in any peacetime period. The situation, of course, would change overnight in case of another world war, and Canada would be faced with an entirely different situation not taken into account here.

6. Conclusion. Are these factors dealing with long-run growth and development of the economy strong enough that fluctuations in the volume of investment will take place in a basically expansionist period rather than one of slow and more hesitant development with wide variations in the volume of investment? The Canadian economy today is in a basically stronger position than it has ever been. The economy is young and vigorous and opportunities for development are plentiful. As far as fluctuations in the volume of investment are concerned, little experience is available as to how to stabilize the level of investment in Canada or in other countries where its volume is determined largely by decisions of individuals. Much experimentation will be required and any success achieved in alleviating some of the fluctuations in the volume of investment will not be without initial setbacks and disappointments. Perhaps the most encouraging sign in sight is the growing recognition and more intimate knowledge by all groups in the country, business, labour, consumers and governments, as to what would happen to levels of employment and income and the standard of living if the North American economies were to continue to tolerate investment declines such as have occurred in the past.

APPENDIX CONTENTS

APPENDIX A

SUPPLEMENTARY STATISTICAL TABLES

TABLE I - PRODUCTION, EXPORTS, IMPORTS, AVAILABLE DOMESTIC SUPPLY AND DOMESTIC DISAPPEARANCE OF SELECTED BASIC MATERIALS, CANADA, SELECTED YEARS, 1929 - 1948.

Type of Material and Year	Unit	Production	Exports	Imports	Available Domestic Supply(1)	Domestic Disappearance(2)
Lumber						
1929		4,742	1,953	241	3,030	- (3)
1933		1,958	1,141	57	874	- (3)
1939	Millions	3,977	2,212	77	1,842	- (3)
1945	of	4,514	2,001	51	2,564	- (3)
1946	Board feet	5,083	2,083	59	3,059	- (3)
1947		5,346(4)	2,735	105	2,716	- (3)
1948 (4)		5,300	2,450	50	2,900	- (3)
Asbestos						
1929		306(5)	292	0	14	- (3)
1933		158(5)	149	0	9	- (3)
1939	Thousands	365	346	0	19	- (3)
1945	of	443	441	0	2	30
1946	Tons	558	520	0	38	62
1947		668	637	0	31	25
1948 (4)		700	650	0	50	- (3)
Gypsum						
1929		1,212(5)	893	1	320	- (3)
1933		383(5)	287	0	96	- (3)
1939	Thousands	1,422(5)	1,262	1	161	- (3)
1945	of	840(5)	559	4	285	433
1946	Tons	1,811(5)	1,489	4	326	126
1947		2,588(5)	1,937	9	660	699
1948 (4)		2,650(5)	1,900	2	752	- (3)

TABLE I - PRODUCTION, EXPORTS, IMPORTS, AVAILABLE DOMESTIC SUPPLY AND DOMESTIC DISAPPEARANCE OF SELECTED BASIC MATERIALS, CANADA, SELECTED YEARS, 1929-1948. - Continued

Type of Material and Year	Unit	Production	Exports	Imports	Available Domestic Supply (1)	Domestic Disappearance(2)
Copper (Primary, All Forms)						
1929		248	235	12	25	- (3)
1933		300	264	- (6)	96	- (3)
1939	Millions	609	434	- (6)	125	- (3)
1945	of	475	297	- (6)	178	198(7)
1946	Pounds	368	238	- (6)	130	125(7)
1947		454	233	- (6)	221	238(7)
1948 (4)		480	290	- (6)	190	- (3)
Lead (Primary, All Forms)						
1929		327	244		84	- (3)
1933		266	292	- (6)	- (8)	- (3)
1939	Millions	389	370	- (6)	19	- (3)
1945	of	347	230	- (6)	117	130(7)
1946	Pounds	354	220	- (6)	134	131(7)
1947		318	263	- (6)	55	79(7)
1948 (4)		340	207	- (6)	133	- (3)
Zinc (Primary, All Forms)						
1929		197	161	3	39	- (3)
1933		199	182	- (6)	17	- (3)
1939	Millions	395	353	- (6)	42	- (3)
1945	of	517	427	- (6)	90	81(7)
1946	Pounds	471	406	0	65	94(7)
1947		428	356	0	72	76(7)
1948 (4)		465	373	0	92	- (3)

TABLE I - PRODUCTION, EXPORTS, IMPORTS, AVAILABLE DOMESTIC SUPPLY AND DOMESTIC DISAPPEARANCE OF SELECTED BASIC MATERIALS, CANADA, SELECTED YEARS, 1929-1948. - Continued

Type of Material and Year	Unit	Production	Exports	Imports	Available Domestic Supply (1)	Domestic Disappearance (2)
Nickel (Primary, All Forms)						
1929		110	110	0	- (8)	- (3)
1933		83	88	0	- (8)	- (3)
1939	Millions	226	235	0	- (8)	- (3)
1945	of	245	213	0	32	8(7)
1946	Pounds	192	223	0	- (8)	4(7)
1947		236	221	0	15	14(7)
1948 (4)		256	240	0	16	- (3)
Iron Ore						
1929		0	4	2,448	2,444	- (3)
1933		0	2	206	204	- (3)
1939	Thousands	124	11	1,765	1,878	- (3)
1945	of	1,135	771	3,740	4,104	- (3)
1946	Tons	1,550	1,145	2,282	2,687	- (3)
1947		2,023	1,750	3,945	4,218	- (3)
1948 (4)		2,000	650	3,750	5,100	- (3)
Crude Steel						
1929		1,544	70(9)	1,975(9)	3,449	- (3)
1933		459	40(9)	350(9)	769	- (3)
1939	Thousands	1,551	225(9)	650(9)	1,976	- (3)
1945	of	2,878	310(9)	1,150(9)	3,718	- (3)
1946	Tons	2,328	256(9)	950(9)	3,022	- (3)
1947		2,946	239(9)	1,243(9)	3,950	- (3)
1948 (4)		3,200	250(9)	1,150(9)	4,100	- (3)

TABLE I - PRODUCTION, EXPORTS, IMPORTS, AVAILABLE DOMESTIC SUPPLY AND DOMESTIC DISAPPEARANCE OF SELECTED BASIC MATERIALS, CANADA, SELECTED YEARS, 1929-1948.- Continued

Type of Material and Year	Unit	Production	Exports	Imports	Available Domestic Supply (1)	Domestic Disappearance (2)
Coal						
1929	Thousands of Tons	17,497	843	18,204	34,858	- (3)
1933		11,903	259	11,204	22,848	- (3)
1939		15,693	376	14,999	30,316	- (3)
1945		16,507	841	25,062	40,728	- (3)
1946		17,797	862	26,107	43,042	42,438
1947		15,860	715	28,892	44,037	42,223
1948 (4)		18,500	950	28,500	46,050	- (3)
Coke (Made from Coal)						
1929	Thousands of Tons	2,712	25	1,227	3,914	- (3)
1933		1,772	5	644	2,411	2,556
1939		2,410	49	436	2,797	2,864
1945		3,863	39	1,244	5,068	5,845
1946		3,313	49	901	4,165	3,975
1947		3,463	107	573	3,929	4,149
1948 (4)		3,700	100	570	4,170	- (3)

Source: Compilation for the years 1929 to 1946 based on annual production, export and import reports, Dominion Bureau of Statistics. The estimate for 1948 is based on figures for the first eight months of the year.

(1) Production plus imports minus exports.
(2) Available domestic supply plus (or minus) decreases (or increases) in stock during the year.
(3) Not available.
(4) Estimated.
(5) Shipments plus quantities used by producers.
(6) Imports are insignificant, amounting to less than one of unit used.
(7) Stock data comprise producers' and consumers' holdings of refined metal only.
(8) Not available, exports were larger than production due to a decline in inventories.
(9) Export and import figures are for steel ingots plus the estimated ingot equivalent of finished and semi-finished steel mill-forms.

TABLE II. - SHIPMENTS OF DOMESTICALLY PRODUCED CARBON AND ALLOY STEEL SHAPES TO CONSUMING INDUSTRIES, CANADA, 1946-1948.

(Thousands of Net Tons)

Type of Industry	1946	1947	1948(1)
Automotive Industry	84.1	138.6	144.0
Agricultural Implements	87.4	107.3	121.0
Machinery and Tools	103.4	164.2	148.0
Mining and Lumbering	69.7	80.7	79.0
Pressing, Forming and Stamping	88.1	131.4	147.0
Railway Rolling Stock	117.5	164.0	232.0
Shipbuilding	44.2	45.6	50.0
Construction Industry	190.0	274.2	301.0
Public Works and Utilities	20.3	13.0	15.0
Other Types of Domestic Use	965.9	1066.7	1190.0
National Defence	2.3	.9	- (2)
Exports	145.2	168.5	236.0
Total	1918.1	2355.1	2663.0

Source: Monthly issues of Canadian Statistical Review, Dominion Bureau of Statistics, Ottawa.

(1) Estimates based on shipments for first six months of 1948.
(2) Negligible.

TABLE III. - VOCATIONAL AND APPRENTICESHIP TRAINING, IMMIGRATION, EMIGRATION, EMPLOYMENT AND UNEMPLOYMENT, CONSTRUCTION WORKERS, CANADA, 1945-1948.

Item	1945	1946	1947	1948
Construction Workers in Training(1):				
Vocational	248	3,805	1,291	112
Apprenticeship	1,095	3,278	5,710	6,215
Total	1,343	7,083	7,001	6,327
Immigration of Construction Workers:				
Skilled	445	633	2,196	4,500(2)
Semi-Skilled and Unskilled	0	51	671	3,600(2)
Total	445	684	2,867	8,100(2)
Emigration of Construction Workers:				
Skilled(3)	- (4)	- (4)	- (4)	850(2)
Labour Force in Construction Industry:				
Employed(5)	171,000(2)	227,000	252,000	291,000(2)
Unemployed	13,000(2)	13,000	12,000	14,000(2)
Total	184,000(2)	240,000	264,000	305,000(2)

Source: Compilation based on data published in Housing in Canada, October, 1948, Central Mortgage and Housing Corporation, Ottawa.

(1) As at June 30 of each year.
(2) Estimated.
(3) No records are available for emigration of semi-skilled and unskilled construction workers.
(4) Not available.
(5) These data differ from those shown in Table XIV in that they reflect an average for the year against the June figures shown in Table XIV. It bears emphasis that neither set of data is comparable with the data on value and volume of construction work carried out (see Summary Tables in Section I) because the latter include force account construction work by employees of business establishments (e.g. railways) or governments (e.g. Federal Department of Public Works) and own account work done by the owners of new structures and their immediate families (e.g. a farmer and his son building a new farm dwelling).

TABLE IV NUMBER OF UNFILLED VACANCIES AND UNPLACED APPLICANTS

IN CONSTRUCTION TRADES, BY TRADE,

CANADA, JULY, 1945 - JULY, 1948.

Trade	July, 1945		July, 1946		July, 1947		July, 1948	
	Unfilled Vacancies	Unplaced Applicants	Unfilled Vacancies	Unplaced Applicants	Unfilled Vacancies	Unplaced Applicants	Unfilled Vacancies	Unplaced Applicants
Bricklayers	1,174	98	806	129	650	56	420	101
Carpenters	7,375	1,801	3,585	2,464	3,152	1,362	1,842	1,739
Painters	2,323	776	645	933	507	537	297	556
Plasterers	221	65	191	38	148	12	215	34
Plumbers and Pipe Fitters	845	378	279	1,012	349	344	261	388
Other Skilled and Semi-Skilled Construction Workers	1,169	223	550	443	503	257	254	318
Total Skilled and Semi-Skilled Construction Workers	13,107	3,341	6,056	5,019	5,309	2,568	3,289	3,136
Unskilled Construction Workers	6,819	1,547	2,760	1,926	5,660	2,769	2,242	2,841
Total Construction Workers	19,926	4,888	8,816	6,945	10,969	5,337	5,531	5,977

Source: Data obtained from Housing in Canada, (Central Mortgage and Housing Corporation, Ottawa), October, 1946, October, 1947, and July, 1948.

TABLE V . - PRODUCTION, EXPORTS, IMPORTS, AVAILABLE DOMESTIC SUPPLY AND DOMESTIC DISAPPEARANCE OF SELECTED BUILDING MATERIALS, CANADA, SELECTED YEARS, 1929 - 1948

Type of Material and Year	Unit	Production	Exports	Imports	Available Domestic Supply(1)	Domestic Disappearance(2
Cement						
1929		12,252	234	56	12,074	12,028
1933		2,411	53	19	2,377	2,974
1939	Thousands	5,721	157	17	5,581	5,591
1945	of	7,819	283	33	7,569	7,739
1946	Barrels	10,675	114	350	10,911	12,276
1947		12,174	88	1,249	13,335	13,599
1948(3)		13,250	80	1,000	14,170	- (4)
Building Brick						
1929		536,991(5)	1,587	15,678	551,082	-
1933		76,241(5)	0	458	76,699	-
1939	Thousands	176,829	1,303	694	176,220	-
1945	of	208,992	3,708	1,387	206,671	206,600
1946	Bricks	305,670	6,114	1,132	300,688	300,878
1947		334,363	4,186	8,930	339,107	334,964
1948(3)		343,500	3,800	7,100	346,800	- (4)
Rock Wool Batts						
1929		-(4)	0	-(4)	-(4)	- (4)
1933	Thousands	-(4)	0	-(4)	-(4)	- (4)
1939	of	9,079	0	711	9,790	- (4)
1945	Square	34,367	0	5,993	40,360	- (4)
1946	Feet	54,816	0	7,822	62,638	62,345
1947		82,756	0	5,775	88,531	88,254
1948(3)		90,000	0	1,200	91,200	- (4)
Gypsum Plaster						
1929		23,092	7,938	16,356	31,510	- (4)
1933		8,792	634	615	8,773	- (4)
1939		69,853	1,339	1,520	70,034	- (4)
1945	Tons	67,076	447	2,884	69,513	- (4)
1946		97,255	969	7,633	103,919	103,942
1947		134,344	1,423	10,071	142,992	143,014
1948(3)		169,300	900	8,000	176,400	- (4)
Asphalt Shingles						
1929		338	-(4)	-(4)	-(4)	- (4)
1933		222	-(4)	-(4)	-(4)	- (4)
1939	Thousands	494	-(4)	-(4)	-(4)	- (4)
1945	of	1,432	-(4)	-(4)	-(4)	- (4)
1946	Squares	1,983	5	10	1,988	- (4)
1947		2,086	9	-(4)	-(4)	- (4)
1948(3)		2,000	-(4)	-(4)	-(4)	- (4)
Cast Iron Radiators						
1929		-(4)	0	-(4)	-(4)	- (4)
1933	Thousands	-(4)	0	-(4)	-(4)	- (4)
1939	of	4,983	0	69	5,052	- (4)
1945	Square	7,179	0	-(6)	7,179	- (4)
1946	Feet	8,007	0	8	8,015	7,941
1947		8,995	0	44	9,039	8,904
1948(3)		8,000	0	0	8,000	- (4)

TABLE V. - PRODUCTION, EXPORTS, IMPORTS, AVAILABLE DOMESTIC SUPPLY AND DOMESTIC DISAPPEARANCE OF SELECTED BUILDING MATERIALS, CANADA, SELECTED YEARS, 1929-1948 - Continued

Type of Material and Year	Unit	Production	Exports	Imports	Available Domestic Supply(1)	Domestic Disappearance(2
Common Colourless Window Glass						
1929	Thousands of Square Feet	-(7)	-(6)	51,390	51,390	- (4)
1933		-(7)	-(6)	22,930	22,930	- (4)
1939		-(7)	-(6)	48,801	48,801	- (4)
1945		-(7)	15	39,804	39,789	- (4)
1946		-(7)	4	43,724	43,720	- (4)
1947		-(7)	93	70,227	70,134	- (4)
1948(3)		-(7)	82	100,000	99,918	- (4)
Paints, Varnishes and Lacquers						
1929	Thousands of Dollars	27,103	490	6,219	32,832	- (4)
1933		14,897	383	2,480	16,994	- (4)
1939		25,856	1,560	4,662	28,958	- (4)
1945		48,397	3,973	8,660	53,084	- (4)
1946		56,730	4,407	9,437	61,760	- (4)
1947		70,886	7,346	13,442	76,982	- (4)
1948(3)		77,000	6,000	14,500	85,500	- (4)
Wire Nails and Spikes						
1929	Tons	61,655	3,011	650	59,294	- (4)
1933		37,246	293	80	37,033	- (4)
1939		66,493	8,054	337	58,776	- (4)
1945		70,021	814	71	69,278	- (4)
1946		58,909	1,270	680	58,319	- (4)
1947		77,442	32	4,147	81,557	- (4)
1948(3)		78,000	3,500	8,500	83,000	- (4)
Rigid Insulating Board						
1929	Thousand Square Feet ½" Basis	-(4)	22,608	-(4)	-(4)	- (4)
1933		51,645(5)	24,793	1,120	27,972	- (4)
1939		98,070	43,307	13,327	68,090	- (4)
1945		164,705	45,340	16,648	136,013	- (4)
1946		161,754	36,177	18,684	144,261	- (4)
1947		203,091	51,148	39,915	191,858	- (4)
1948(3)		226,700	40,000	10,000	196,700	- (4)

Source: Compilation for the years 1929 to 1946 based on annual production, export and import publications, Dominion Bureau of Statistics. Data for 1947 and 1948 by courtesy Dominion Bureau of Statistics. The estimate for 1948 is based on figures for the first eight months of the year.

(1) Production plus imports minus exports.
(2) Available domestic supply plus (or minus) net decreases (or increases) in stock between beginning and end of year.
(3) Estimated.
(4) Not available.
(5) Shipments.
(6) Exports and Imports were insignificant.
(7) There is only one Canadian producer of window glass established since 1944. Because of the three company rule for presentation of statistical records, no data are available.

TABLE VI. - PRODUCTION OF SELECTED BUILDING MATERIALS[1], CANADA, SELECTED YEARS, 1929 - 1948.

Type of Material	Unit	1929	1933	1939	1945	1946	1947	1948[2]
Structural Tile	Thousands of Tons	221.8(3)	26.7(3)	86.1(3)	91.4	133.8	150.2	177.8
Bulk Rock Wool	Millions of Cu.Ft.	- (4)	- (4)	1.8	5.4	10.1	9.9	11.7
Gypsum Wallboard	Millions of Sq.Ft.	- (4)	35.9	78.2	134.0	203.4	214.1	247.4
Smooth and Mineral - Surfaced Roll Roofing	Millions of Squares	- (4)	0.9	1.3	2.4	3.0	3.4	3.4
Cast Iton Soil Pipe and Fittings	Thousands of Tons	21.4	4.4	16.5	18.5	25.2	32.6	35.0
Cast Iron Water Pipe and Fittings	Thousands of Tons	74.2	9.4	33.1	45.9	65.2	74.1	70.0
Steel Pipe and Fittings	Thousands of Tons	137.1	33.3	90.5	139.3	103.7	92.6	125.0
Furnaces - Warm Air and Heating Boilers	Thousands of Furnaces	49.3	17.8	39.6	48.8	59.9	70.8	75.0
Electric Water Heaters	Thousands of Heaters	- (4)	27.5	23.0	57.2	76.6	74.4	74.5
Hot Water Storage Tanks (Range Boilers)	Thousands of Tanks	- (4)	- (4)	96.8	128.8	136.4	163.7	176.4
Builders' Hardware	Millions of Dollars	3.8	1.1	2.5	4.3(5)	5.5(5)	6.7(5)	8.0(5

Source: Compilation for the years 1929 to 1946 based on annual production publications, Dominion Bureau of Statistics. Data for 1947 and 1948 by courtesy Dominion Bureau of Statistics. The estimate for 1948 is based on figures for the first eight months of the year.

(1) Items for which no comparable export and import classifications are available at present to arrive at domestic supply.
(2) Estimated.
(3) Shipments.
(4) Not available.
(5) Factory Sales.

TABLE VII - SALES DURING THE MONTH AND STOCKS AT THE END OF THE MONTH OF SELECTED BUILDING MATERIALS, CANADA, JULY, 1946 - JULY, 1948.

Item	July, 1946	July, 1947	July, 1948
Cement - Mill, of Barrels of 350 lbs.			
Sales	1.4	1.3	1.4
Stocks	.7	.4	.7
Building Brick - Mill. of Bricks			
Sales	27.7	29.5	29.4
Stocks	16.6	22.0	21.3
Flue Linings - Thous. of Feet			
Sales	64.2	64.5	116.0
Stocks	7.0	15.8	14.7
Cast Iron Soil Pipe and Fittings - Thous. of Tons			
Sales	1.5	2.2	3.3
Stocks	.9	1.4	1.3
Steel Pipe and Fittings - Thous. of Tons			
Sales	5.9	7.3	6.2
Stocks	6.6	7.4	6.0
Wire Nails and Spikes - Thous. of Tons			
Sales	2.4(1)	6.2	7.1
Stocks	2.0(1)	1.6	1.2
Bath Tubs - Thous. of Units			
Sales	4.0	5.2	7.1
Stocks	1.2	2.2	1.7
Sinks - Thous. of Units			
Sales	7.3	5.7	10.0
Stocks	2.4	6.8	6.4
Gypsum Wallboard - Mill. of Sq. Ft.			
Sales	15.8	16.2	19.5
Stocks	1.4	1.6	1.5
Gypsum Lath - Mill of Sq. Ft.			
Sales	6.8	6.7	11.5
Stocks	1.1	1.2	.4
Gypsum Plaster - Thous. of Tons			
Sales	9.8	10.5	14.5
Stocks	.5	.6	.7
Rock Wool Batts - Mill. of Sq. Ft.			
Sales	4.7	5.5	6.0
Stocks	.4	.5	.5
Single Pole Switches - Mill. of Units			
Sales	64.0	156.7	144.4
Stocks	7.1	13.6	13.1
Outlet Boxes - Thous. of Units			
Sales	211.6	422.6	49[illegible].5
Stocks	99.0	21.6	247.0
Non-Metallic Sheathed Cable - Mill. of feet			
Sales	2.8	5.0	2.3
Stocks	.2	.4	3.7

TABLE VII - SALES DURING THE MONTH AND STOCKS AT THE END OF THE MONTH OF SELECTED BUILDING MATERIALS, CANADA, JULY, 1945 - JULY, 1948. - Continued

Item	July, 1946	July, 1947	July, 1948
Domestic Heating Boilers - Thous. of Units			
Sales	.7	.9	.9
Stocks	.3	0	0
Hot Water Storage Tanks - Thous. of Units			
Sales	10.7	11.0	8.8
Stocks	.3	0	.3
Electric Hot Water Tank Heaters - Thous. of Units			
Sales	2.7	8.4	4.9
Stocks	.2	2.3	7.5

Source: Annual and monthly production, sales and stock reports, Dominion Bureau of Statistics, Ottawa.

(1) As at September 1.

TABLE VIII- BUILDING MATERIALS FOR WHICH PRIORITY ASSISTANCE WAS APPROVED BY THE DEPARTMENT OF RECONSTRUCTION AND SUPPLY CANADA, 1947 - OCTOBER, 1948

Type of Building Material	Per Cent of Total Applications Approved				
	1947		1948		
	First Half	Second Half	First Half	Third Quarter	October
Bath Tubs	61	71	75	81	85
Other Sanitary Ware	58	69	76	82	84
Soil Pipe	48	57	56	57	46
Galvanized and Other Pipe	47	60	66	61	60
Range Boilers	37	54	54	54	62
Electrical Devices	26	34	23	20	11
Electrical Conduit Non-Metallic Cable, etc.	40	28	29	25	16
Flooring	31	42	36	36	29
Wallboard and Lath	21	33	26	35	42
Cement	19	33	24	34	45
Furnaces	-	28	22	25	30
Nails	27	53	53	56	45
Flue Lining & Drainage Tile	-	22	23	24	23
Doors and Windows	11	22	20	19	10
Eavesthrough and Downspout	-	-	-	13	24

Source: Data by courtesy of Building Materials Branch, Department of Reconstruction and Supply, Ottawa.

TABLE IX - DISTRIBUTION OF CANADIAN AND FOREIGN MANUFACTURED MACHINERY AND EQUIPMENT GOING INTO INVESTMENT, BY TYPE OF INDUSTRY, CANADA, 1944-1949

Type of Industry	Proportion - Per cent		Value of New Machinery and Equipment
	Canadian Manufactured Machinery and Equipment (1)	Foreign Manufactured Machinery and Equipment (2)	$ million
Manufacturing Industries -			
Vegetable and Animal Products-Food:			
(1) Vegetable Food Products	60.4	39.6	74.5
(2) Animal Food Products	70.2	29.8	14.4
(3) Tobacco	43.9	56.1	6.7
Sub-total	60.7	39.3	95.6
Vegetable and Animal Products - Non-Food:			
(1) Rubber	75.5	24.5	16.0
(2) Leather	59.4	40.6	2.4
(3) Furs	91.8	8.2	0.2
Sub-total	73.6	26.4	18.6
Textiles and Textile Products:			
(1) Primary Textiles	33.1	66.9	63.0
(2) Clothing and Other Textiles	27.3	72.7	24.2
Sub-total	31.5	68.5	87.2
Wood and Paper Products:			
(1) Lumber and Lumber Products	75.1	24.9	35.5
(2) Pulp and Paper	87.1	12.9	194.5
(3) Printing and Publishing	23.8	76.2	19.2
Sub-total	80.4	19.6	249.2
Iron and Its Products:			
(1) Primary Iron and Steel	67.7	32.3	10.9
(2) Iron and Steel Fabricated Products (excluding Vehicles)	58.7	41.2	61.1
(3) Vehicles and Parts	56.1	43.9	16.9
Sub-total	59.3	40.7	88.9
Non-Ferrous Metal Products and Electrical Apparatus:			
(1) Non-Ferrous Metal Products	60.7	39.3	16.5
(2) Electrical Apparatus	56.7	43.3	23.3
Sub-total	58.4	41.6	39.8
Non-Metallic Mineral Products:			
(1) Fuel and Fuel Products	81.1	18.9	42.6
(2) Cement, Lime, Salt, Clay and Stone Products	78.8	21.2	30.9
(3) Glass and Glass Products	56.5	43.5	6.8
Sub-total	78.1	21.9	80.3
Chemicals and Allied Products:			
(1) Industrial, Domestic and Agricultural Chemicals	72.9	27.1	25.0
(2) Drugs, Cosmetics, Soaps	66.9	33.1	9.8
(3) Miscellaneous Chemical Products	62.4	37.6	23.4
Sub-total	67.7	32.3	58.2
Miscellaneous Manufacturing Products	52.7	47.3	6.0
Total Manufacturing Industries	66.4	33.6	723.6

TABLE IX. - DISTRIBUTION OF CANADIAN AND FOREIGN MANUFACTURED MACHINERY AND EQUIPMENT GOING INTO INVESTMENT, BY TYPE OF INDUSTRY, CANADA, 1944-1949.- Continued

Type of Industry	Proportion - Per cent		Value of New Machinery and Equipment $ million
	Canadian Manufactured Machinery and Equipment(1)	Foreign Manufactured Machinery and Equipment(2)	
Primary Industries			
Mining	72.0	28.0	7.7
Woods Operations	51.4	48.6	14.3
Total	58.6	41.4	21.9
Special Industries			
Shipbuilding	53.6	46.4	0.9
Commercial Shipping	86.3	13.7	2.6
Construction Industry	33.4	66.6	8.8

Source: Data from Encouragement to Industrial Expansion in Canada, Operation of Special Depreciation Provisions, November 10, 1944 - March 31, 1949, Department of Reconstruction and Supply, Ottawa, 1948, pp. 50-51. The data reflect investment intentions as stated in applications for special depreciation under the Income War Tax Act.

(1) Including foreign materials and parts used in the manufacture of Canadian produced machinery and equipment.
(2) Including cost of installation and duties paid in Canada and mark-ups of Canadian distributors.

TABLE X. - VALUE OF IMPORTED FOREIGN COMPLETED MACHINERY AND EQUIPMENT AT BORDER AND ALL MACHINERY AND EQUIPMENT EXPENDITURES, CURRENT AND CONSTANT DOLLARS, CANADA, SELECTED YEARS, 1929 - 1948.

Year	Current Dollars						
	Millions of Dollars				Per cent		
	Total Imports of Completed Machinery and Equipment(1)	For Current Investment Program			For Current Investment Program		
		Foreign Completed Machinery and Equipment(2)	All Other Machinery and Equipment Expenditures(3)	Total Machinery and Equipment Investment in Canada(4)	Foreign Completed Machinery and Equipment	All Other Machinery and Equipment Expenditures	Total Machinery and Equipment Investment in Canada
1929	132	132	428	560	24	76	100
1933	19	19	96	115	17	83	100
1939	77	76	229	305	25	75	100
1945	167	164	278	442	37	63	100
1946	235	212	394	606	35	65	100
1947	360	338	702	1,040	33	67	100
1948	370	348	932	1,280	27	73	100

TABLE X. - VALUE OF IMPORTED FOREIGN COMPLETED MACHINERY AND EQUIPMENT AT BORDER AND ALL MACHINERY AND EQUIPMENT EXPENDITURES, CURRENT AND CONSTANT DOLLARS, CANADA, SELECTED YEARS, 1929 - 1948. - Continued

Year	Constant Dollars						
	Millions of Dollars				Per cent		
		For Current Investment Program			For Current Investment Program		
	Total Imports of Completed Machinery and Equipment (1)	Foreign Completed Machinery and Equipment(2)	All Other Machinery and Equipment Expenditures(3)	Total Machinery and Equipment Investment in Canada(4)	Foreign Completed Machinery and Equipment	All Other Machinery and Equipment Expenditures	Total Machinery and Equipment Investment in Canada
1929	128	128	413	541	24	76	100
1933	20	20	102	122	16	84	100
1939	77	76	229	305	25	75	100
1945	124	122	209	331	37	63	100
1946	166	150	304	454	33	67	100
1947	223	210	464	674	31	69	100
1948	205	194	518	712	27	73	100

Source: Special compilation by Economic Research Branch, Department of Reconstruction and Supply.

(1) This series is based on imports, before duty, of completed machinery and equipment, excluding imports of parts and of machinery and equipment for domestic use. The series excludes import costs, freight charges and mark-ups of Canadian dealers.

(2) This item is the total imports of completed machinery and equipment adjusted for the amounts going to or from inventories in Canada.

(3) This series covers machinery and equipment manufactured in Canada, including components and parts from abroad, plus the Canadian import and handling costs of all machinery and equipment currently invested in Canada. Allowance is made for estimated amounts going to or from inventories at various levels in Canada.

(4) This series covers all private and government purchases of machinery and equipment included in private and public investment in durable physical assets.

TABLE XI. - GROSS AND NET VALUE OF PRODUCTION OF SELECTED MACHINERY AND EQUIPMENT, MANUFACTURING INDUSTRIES - CANADA
SELECTED YEARS, 1929 - 1948
(Millions of Dollars)

Type of Industry	1929		1933		1939		1945		1946		1947	1948
	Gross Value	Net Value	Gross Value	Net Value	Gross Value	Net Value	Gross Value	Net Value	Gross Value	Net Value	Gross Value	Gross Value
Electrical Appliances and Supplies	113.8	64.2	37.0	22.5	89.1	48.5	230.5	135.9	234.6	130.0	366.5	-(1)
Machinery	65.7	43.4	18.9	12.1	48.5	29.5	138.2	91.6	145.6	93.0	192.1	-(1)
Railway Rolling Stock	126.5	52.3	29.7	16.1	60.7	24.8	181.2	92.8	162.2	74.7	148.2	-(1)
Sheet Metal Products	53.2	25.1	26.0	12.1	51.5	21.2	106.3	46.6	115.7	51.3	130.9	-(1)
Agricultural Implements	40.7	21.6	5.3	3.1	16.0	8.9	57.6	30.1	63.2	29.2	88.7	-(1)
Iron & Steel Products N.E.S.	17.2	8.7	2.5	1.6	8.3	4.5	145.7	72.3	28.4	15.3	36.0	-(1)
and Sub-total	417.1	215.3	119.4	67.5	274.1	137.4	859.5	469.3	749.7	393.5	962.4	1150.0(3)
Shipbuilding(4)	17.5	11.9	4.5	3.5	11.2	7.1	204.6	141.6	91.9	64.5	96.9	100.0(3)
Total	434.6	227.2	123.9	71.0	285.3	144.5	1064.1	610.9	841.6	458.0	1059.3(2)	1250.0(3)

Source: Data for 1929-1947 from Annual Publications on The Manufacturing Industries of Canada, Dominion Bureau of Statistics. Figure for 1948 is a preliminary estimate based on employment and price data. Net value of production equals gross value of production less cost of materials and power.

(1) Not available.
(2) No information on net value available.
(3) Preliminary Estimate. No information on net value available.
(4) Including repairs.

TABLE XII. - SHIPMENTS OF SELECTED IRON AND STEEL PRODUCTS BY RAIL, CANADA, SELECTED YEARS, 1929-1948.

(Thousands of Tons)

Type of Product	1929	1933	1939	1945	1946	1947	1948 (1)
Iron and Steel Products (2)	919.5	165.5	652.4	1,277.0	996.2	1,417.7	1,586.4
Agricultural Implements and Vehicles other than motors	255.7	41.8	82.5	212.7	239.9	312.1	412.0
Automobiles and Trucks	906.0	96.4	277.4	1,422.7	578.7	599.9	442.3
Total	2,081.2	303.7	1,012.3	2,912.4	1,814.8	2,329.7	2,440.7

Source: Compilation based on Annual and Monthly issues of Steam Railways of Canada, Dominion Bureau of Statistics.

(1) Estimate based on shipments in the first seven months of 1948.

(2) Includes Bar Sheet Structural Pipe.

TABLE XIII. - NUMBER OF UNFILLED VACANCIES AND UNPLACED APPLICANTS IN THE IRON AND STEEL AND RELATED INDUSTRIES, BY TRADE, CANADA, JULY 1946 - JULY 1948.

Trade	July, 1946		July, 1947		July, 1948	
	Unfilled Vacancies	Unplaced Applicants	Unfilled Vacancies	Unplaced Applicants	Unfilled Vacancies	Unplaced Applicants
Blacksmiths, Forgemen, Heat and Mechanical Treaters	153	508	172	328	96	312
Machinists, Tool Makers and Diesetters	283	3,564	207	977	234	820
Sheet Metal Workers	197	487	304	162	301	202
Welders and Frame-cutters	150	1,561	443	500	165	561
Patternmakers and Other Machine Shop Workers	142	979	438	691	231	568
Foundry Workers - Moulders and Core Workers	314	385	293	210	124	193
Total Other Metal Working Occupations	923	3,092	512	754	327	921
Unskilled Labourers	N.A.	N.A.	2,091	832	555	752
All Trades	2,162	10,576	4,460	4,454	2,033	4,329

Source: Data by courtesy Research and Statistics Branch, Department of Labour.

TABLE XIV- ESTIMATED NUMBER OF PERSONS EMPLOYED, MAN-WORKING DAYS LOST THROUGH STRIKES, AND MAN-WORKING DAYS LOST THROUGH STRIKES PER THOUSAND PERSONS EMPLOYED, CONSTRUCTION INDUSTRY AND NON-AGRICULTURAL INDUSTRIES, CANADA, SELECTED YEARS, 1929-1948.

As at Beginning of June	Construction Industry			Non-Agricultural Industries		
	Number of Persons Employed (thousands)	Man-Working Days Lost Through Strikes	Man-Working Days Lost Per Thousand Persons Employed	Number of Persons Employed (thousands)	Man-Working Days Lost Through Strikes	Man-Workin Days Lost Per Thousa Persons Employed
1929	246	56,354	229	2,626	154,810	59
1933	115	3,186	28	2,126	316,047	149
1939	196	1,414	7	2,556	224,588	88
1945	175	2,848	16	3,218	1,457,420	453
1946	241	6,995	29	3,428	4,516,393	1,318
1947	254	44,362	175	3,658	2,397,340	655
1948	295	44,003	149	3,762	731,280	194

Source: Data on man working days lost through strikes, 1929-1947, obtained from Strikes and Lockouts in Canada During 1947, Supplement to The Labour Gazette, April 1948, Department of Labour. Estimates for 1948 based on time losses for the first half of 1948 and additional information as to prospects for time losses during the remainder of the year. Data on time losses during the first half of 1948 obtained from monthly issues of The Labour Gazette, Department of Labour. Data on employment in the construction industry and all non-agricultural industries for the years 1946-1948 obtained from issues of The Labour Force Bulletin, periodic issues, Dominion Bureau of Statistics. Figures for the years 1929-1945 are estimates based on Census data and monthly and annual issues of The Employment Situation, Dominion Bureau of Statistics.

TABLE XV - DISTRIBUTION OF MATERIAL, LABOUR, AND OVERHEAD AND PROFITS FOR CONSTRUCTION PROJECTS, BY TYPES OF INDUSTRY, CANADA, 1944-1949

Type of Industry	Proportion - Per cent			Value of New Construction Costs $ million
	Materials	Labour	Overhead and Profits	
Manufacturing Industries -				
Vegetable and Animal Products - Food:				
(1) Vegetable Food Products	48.3	36.4	15.3	68.0
(2) Animal Food Products	51.8	37.2	11.0	13.0
(3) Tobacco	49.3	44.3	6.4	7.1
Sub-total	48.9	37.1	14.0	88.1
Vegetable and Animal Products - Non-Food:				
(1) Rubber	44.4	41.9	13.7	5.7
(2) Leather	52.7	38.0	9.3	3.1
(3) Furs	59.6	33.8	6.6	.5
Sub-total	48.0	40.1	11.9	9.4
Textiles and Textile Products:				
(1) Primary Textiles	50.0	37.3	12.7	20.0
(2) Clothing and Other Textiles	49.3	40.1	10.6	7.4
Sub-total	49.8	38.0	12.2	27.4
Wood and Paper Products:				
(1) Lumber and Lumber Products	49.8	41.5	8.7	22.6
(2) Pulp and Paper	52.8	36.8	10.4	65.4
(3) Printing and Publishing	55.1	33.2	11.7	10.0
Sub-total	52.4	37.5	10.1	98.0
Iron and Its Products:				
(1) Primary Iron and Steel	54.7	33.9	11.4	3.3
(2) Iron and Steel Fabricated Products (excluding Vehicles)	48.2	41.5	10.3	30.6
(3) Vehicles and Parts	49.9	36.3	13.8	12.0
Sub-total	49.1	39.6	11.3	45.9
Non-Ferrous Metal Products and Electrical Apparatus:				
(1) Non-Ferrous Metal Products	48.3	41.5	10.2	12.0
(2) Electrical Apparatus	46.8	43.8	9.4	12.7
Sub-total	47.5	42.7	9.8	24.6
Non-Metallic Mineral Products:				
(1) Fuel and Fuel Products	53.2	41.9	4.9	9.2
(2) Cement, Lime, Salt, Clay and Stone Products	50.8	39.0	10.2	18.4
(3) Glass and Glass Products	54.3	41.0	4.7	4.2
Sub-total	52.0	40.1	7.9	31.7
Chemicals and Allied Products:				
(1) Industrial, Domestic and Agricultural Chemicals	49.9	42.9	7.2	27.0
(2) Drugs, Cosmetics, Soaps	55.4	39.5	5.1	8.3
(3) Miscellaneous Chemical Products	57.3	36.1	6.6	11.9
Sub-total	52.8	40.6	6.6	48.2
Miscellaneous Manufacturing Products	53.1	39.3	7.6	6.4
Total Manufacturing Industries	50.6	38.8	10.6	379.7

TABLE XV. - DISTRIBUTION OF MATERIAL, LABOUR, AND OVERHEAD AND PROFITS FOR CONSTRUCTION PROJECTS, BY TYPES OF INDUSTRY, CANADA, 1944-1949. - Continued

Type of Industry	Proportion - Per cent			Value of New Construction Costs $ million
	Materials	Labour	Overhead and Profits	
Primary Industries				
Mining	50.9	42.2	6.9	4.8
Woods Operations	44.5	44.7	10.8	6.5
Total	47.2	43.6	9.2	11.3
Special Industries				
Shipbuilding	38.3	39.4	22.3	1.5
Construction Industry	54.7	40.0	5.3	.7
Housebuilding	52.5	37.5	10.0	333.7

Source: Compilation based on Encouragement to Industrial Expansion in Canada, Operation of Special Depreciation Provisions, November 10, 1944 - March 31, 1949, Department of Reconstruction and Supply, Ottawa, 1948, pp. 87-89 and Manpower and Material Requirements for a Housing Program in Canada, Department of Reconstruction and Supply, Ottawa, 1946, p. 28. The data reflect for the non-housing sector investment intentions as stated in applications for special depreciation under the Income War Tax Act. The housing data are based on the results of a sample survey used to arrive at estimates of the construction costs of a housing program of 50,000 units of desirable standards. The profit and overhead ratios for housing exclude an allowance for speculative profits and extra profits made as a result of excessive demand prevailing in the immediate post-war period. The ratios of overhead and profits for industrial projects were based on construction intentions. Frequently the ratio of actual overhead and profits to contract price turned out to be greater. Account of these factors is taken on p. 100.

TABLE XVI - DISTRIBUTION OF MATERIAL, LABOUR, AND OVERHEAD AND PROFITS FOR MACHINERY AND EQUIPMENT, BY TYPE, CANADA, SELECTED YEARS, 1929-1946

Type of Machinery and Equipment	1929				1933				1939			
	Proportion - Per cent			Gross Value of Production $ million	Proportion - Per cent			Gross Value of Production $ million	Proportion - Per cent			Gross Value of Production $ million
	Materials	Labour	Overhead and Profits		Materials	Labour	Overhead and Profits		Materials	Labour	Overhead and Profits	
Electrical Apparatus and Supplies	43.6	23.5	32.9	113.8	39.2	33.5	27.3	37.0	44.1	28.8	27.1	89.1
Railway Rolling Stock	58.7	30.3	11.0	126.5	45.8	48.5	5.7	29.7	56.2	41.2	2.6	60.7
Machinery	33.9	26.0	40.1	65.7	36.0	34.9	29.1	18.9	37.3	34.6	28.1	48.5
Sheet Metal Products	52.8	21.1	26.1	53.2	53.1	23.1	23.8	26.0	67.5	19.4	13.1	51.5
Shipbuilding	32.0	42.9	25.1	17.5	22.2	57.8	20.0	4.5	33.9	34.8	31.3	11.2
Agricultural Implements	48.4	36.4	15.2	40.7	41.5	56.6	1.9	5.3	41.9	37.5	20.6	16.0
Iron and Steel Products N.E.S.	49.4	30.8	19.8	17.2	36.0	36.0	28.0	2.5	41.0	30.1	28.9	8.3
Total	47.9	27.8	24.3	434.6	42.9	37.0	20.1	123.9	47.3	31.5	21.2	285.3

TABLE XVI - DISTRIBUTION OF MATERIAL, LABOUR, AND OVERHEAD AND PROFITS FOR MACHINERY AND EQUIPMENT, BY TYPE, CANADA, SELECTED YEARS, 1929-1946. - Continued

Type of Machinery and Equipment	1945				1946				1947			
	Proportion - Per cent			Gross Value of Production $ million	Proportion - Per cent			Gross Value of Production $ million	Proportion - Per cent			Gross Value of Production $ million
	Materials	Labour	Overhead and Profits		Materials	Labour	Overhead and Profits		Materials	Labour	Overhead and Profits	
Electrical Apparatus and Supplies	39.9	33.2	26.9	230.5	43.5	31.8	24.7	234.6	44.2	28.3	27.5	366.5
Railway Rolling Stock	46.5	34.1	19.4	181.2	51.7	35.7	12.6	162.2	47.0	40.9	12.1	148.2
Machinery	32.4	34.0	33.6	138.2	34.9	34.5	30.6	145.6	36.0	31.2	32.8	192.1
Sheet Metal Products	54.8	26.1	19.1	106.3	54.5	23.9	21.6	115.7	53.1	27.1	19.8	130.9
Shipbuilding	29.5	48.6	21.9	204.6	28.2	44.6	27.2	91.9	32.5	45.0	22.5	96.9
Agricultural Implements	45.8	42.4	11.8	57.6	51.9	40.3	7.8	63.2	60.9	35.0	4.1	88.7
Iron and Steel Products N.E.S.	48.9	28.7	22.4	145.7	42.3	36.6	21.1	28.4	43.3	34.7	22.0	36.0
Total	41.1	35.6	23.3	1,064.1	44.0	34.1	21.9	841.6	44.5	32.8	22.7	1,059.3

Source: Compilation based on Annual Reports on the Manufacturing Industries of Canada, Dominion Bureau of Statistics, Ottawa.

TABLE XVII - INDICES OF HOURLY WAGE RATES IN THE BUILDING TRADES, BY TYPE OF TRADE, CANADA, AND RELATED INDICES, UNITED STATES AND UNITED KINGDOM, SELECTED YEARS, 1929 - JULY, 1948

Country and Type of Trade	1929	1933	1939	1945	1946	1947	July 1948(1)
Canada - Wage Rates(2)							
Bricklayers and Masons	131.3	91.9	100.0	122.4	135.0	152.5	159.7
Carpenters	119.0	82.3	100.0	131.4	146.5	159.5	172.4
Painters	120.6	89.7	100.0	131.4	145.8	154.7	171.1
Plasterers	134.8	94.6	100.0	125.7	136.6	153.3	166.6
Plumbers	119.1	93.3	100.0	124.9	138.1	150.7	164.3
Electricians	115.5	96.4	100.0	129.0	145.0	153.5	171.8
Sheet Metal Workers	120.3	94.9	100.0	125.3	141.8	154.4	169.6
Unskilled Construction Workers	109.3	86.0	100.0	150.5	159.8	176.5	193.2
All Construction Workers	115.8	92.5	100.0	131.1	143.9	155.0	170.8
United States							
All Construction Workers							
Wage Rates(3)	93.1	80.8	100.0	116.0	129.3	147.9	-(4)
Hourly Earnings	-(4)	-(4)	100.0(5)	143.8	153.4	176.4	195.0
United Kingdom							
All Construction Workers							
Hourly Earnings	-(4)	-(4)	100.0(6)	150.0(7)	170.0(8)	175.0(8)	-(4)

Source: Canada: Data for all construction workers, 1929-1946, from Wages and Hours of Labour in Canada, 1946, Department of Labour, Ottawa. Figure for 1947 from the Labour Gazette, September, 1948, Department of Labour, Ottawa. Individual trade indices 1939-1946 by courtesy of Research and Statistics Branch, Department of Labour, Ottawa. Individual indices, 1929 and 1933, based on wage rate data published in issues of Wages and Hours of Labour in Canada, Department of Labour. Figures for 1947 and 1948 estimated on the basis of wage rates supplied by courtesy of the Industrial Relations Branch, Department of Labour, Ottawa. United States: Wage rate data, 1929-1939 from Union Wages, Hours and Working Conditions in the Building Trades, Department of Labor, Bureau of Labor Statistics, Washington, June, 1939. Wage rate data, 1945-1947 from Monthly Labor Review, January, 1948, Department of Labor, Bureau of Labor Statistics, Washington. Earnings indexes compiled from monthly issues of Construction, Department of Labor, Bureau of Labor Statistics, Washington (as shown in Housing Progress Abroad, Central Mortgage and Housing Corporation, Ottawa, September, 1948). United Kingdom: Indices compiled from monthly issues of the Ministry of Labour Gazette, Ministry of Labour, London, (as shown in Housing Progress Abroad, Central Mortgage and Housing Corporation, Ottawa, September, 1948). The problem of comparability of these different national series is great as indicated in the footnotes that follow.

(1) Preliminary. The figures for Canada relate to the end of June and therefore approximate the position as of July 1, 1948.
(2) This item covers prevailing wage rates which would frequently be higher than minimum wage rates.
(3) This item covers union minimum hourly rates which would be lower than prevailing union rates.
(4) Not available.
(5) 1940.
(6) October, 1938.
(7) July.
(8) October.

TABLE XVIII- INDICES OF WHOLESALE PRICES OF SELECTED BUILDING AND CONSTRUCTION MATERIALS, CANADA, UNITED STATES, AND UNITED KINGDOM, SELECTED YEARS, 1929 - JULY, 1948

Country and Item	1929	1933	1939	1945	1946	1947	July 1948
Canada							
Cement	103.6	109.2	100.0	109.1	108.7	114.3	129.2
Bricks	118.2	107.0	100.0	116.0	116.0	127.5	131.4
Structural Steel	97.9	94.9	100.0	123.7	137.1	144.5	161.9
Paint Materials	135.4	97.3	100.0	125.0	130.3	186.5	211.4
Residential Building Materials (1)	109.7	87.6	100.0	143.8	147.3	174.2	-(2)
All Building and Construction Materials	110.4	87.3	100.0	142.0	149.5	185.6	217.9
United States							
Cement	97.5	96.5	100.0	108.9	114.0	126.7	143.3
Bricks	103.2	86.7	100.0	123.0	133.8	153.2	172.7
Structural Steel	91.4	77.4	100.0	100.0	110.4	125.3	148.7
Paint Materials	114.6	88.5	100.0	129.1	142.8	196.4	183.8
All Building and Construction Materials	105.4	85.1	100.0	130.2	146.1	198.3	220.3
United Kingdom							
All Building and Construction Materials	99.4(3)	88.3	100.0	150.3	165.9	195.7	208.2

Source: Canada. Annual and monthly issues of Prices and Price Indexes, Dominion Bureau of Statistics, Ottawa, Index for residential building materials by courtesy the Prices Branch, Dominion Bureau of Statistics - United States: Monthly issues of Construction and Construction Materials, Department of Commerce, Washington; United Kingdom: Data for 1939-1948 from Monthly Digest of Statistics, Central Statistical Office, London, February, 1947, and September, 1948. Data for 1929 and 1933 from Statistical Abstract of the United Kingdom, Board of Trade, 1924-1937, and Board of Trade Journal, January 24, 1935.

(1) Preliminary.
(2) Not available.
(3) Adjusted to assure comparability with later data.

TABLE XIX .- INDICES OF HOURLY WAGE RATES FOR SELECTED GROUPS OF INDUSTRIES OF WHOLESALE PRICES OF SELECTED COMMODITIES AND OF COST OF LIVING, CANADA, SELECTED YEARS, 1929 - JULY, 1948.

Item	1929	1933	1939	1945	1946	1947	July 1948(1)
Wage Rates in Industry							
Logging	98.7	57.4	100.0	153.3	167.4	195.1	215
Manufacturing	95.4	82.9	100.0	146.5	161.6	183.3	210
Mining	95.1	90.5	100.0	136.5	140.6	161.7	183
Construction	115.8	92.5	100.0	131.1	143.9	155.0	171
Transportation and Communication	98.8	87.2	100.0	128.8	143.5	149.3	169
General Average	99.2	85.1	100.0	141.8	155.2	173.7	194
Wholesale Prices of Commodities							
Wood and Its Products and Paper	113.6	79.2	100.0	152.1	167.0	205.0	232.7
Animals and Their Products	146.1	79.6	100.0	144.6	153.5	176.7	228.1
Building Materials	110.4	87.3	100.0	141.9	149.5	185.5	217.8
Fibres, Textiles and Their Products	130.4	99.6	100.0	131.1	138.6	184.0	222.1
Iron and Its Products	95.1	86.7	100.0	118.9	128.0	140.0	162.0
All Commodities	126.8	89.0	100.0	137.4	144.2	171.2	201.6
Cost of Living							
Food	133.9	84.4	100.0	132.2	139.6	158.5	200.1
All Consumers' Goods	-(2)	-(2)	100.0	125.0	130.8	147.3	178.6
Total Index	119.9	93.0	100.0	117.7	121.8	133.5	154.6

Source: Data on wage rates, 1939-1947, obtained from the Labour Gazette, September, 1948, Department of Labour. Data for logging, manufacturing, construction, and the general average from Wages and Hours of Labour in Canada, 1946, Department of Labour, for the years 1929 and 1933. Data for transportation and communication, and mining, 1929 and 1933, obtained by courtesy of the Research and Statistics Branch, Department of Labour. All wage data for 1948 were estimated. The index for construction labour was estimated on the basis of wage data provided by courtesy of the Industrial Relations Branch, Department of Labour. The indices for manufacturing and mining were estimated on the basis of average hourly earnings shown for the respective industries at July 1 of 1947 and 1948 in the July, 1948 issue of Statistics of Hours Worked and Average Hourly Earnings, Dominion Bureau of Statistics. The indices for logging, transportation and communications, and the general average, were based on average weekly earnings shown for July 1, 1947 and July 1, 1948, in the July, 1948 issue of The Employment Situation. Data on prices and cost of living obtained from annual and monthly issues of Prices and Price Indexes, Dominion Bureau of Statistics, Ottawa.

(1) Estimated.
(2) Not available.

TABLE XX .- INDICES OF WAGE RATES IN IRON AND STEEL INDUSTRIES, BY TRADE, CANADA, AVERAGE HOURLY EARNINGS OF PRODUCTION WORKERS IN THE IRON AND STEEL INDUSTRIES, UNITED STATES, SELECTED YEARS, 1929-1948.

Country and Type of Trade	1929	1933	1939	1945	1946	1947	July 1948
Canada							
Blacksmiths	103.5	91.4	100.0	146.6	151.7	169.0	-(1)
Machinists	103.5	87.9	100.0	151.7	157.0	170.7	-(1)
Moulders	112.3	91.2	100.0	145.6	159.7	186.0	-(1)
Patternmakers	103.2	88.7	100.0	145.2	153.1	177.4	-(1)
Sheet Metal Workers	110.7	95.2	100.0	153.6	160.7	182.1	-(1)
Welders	-(1)	-(1)	100.0	151.7	153.3	170.7	-(1)
Labourers	97.4	87.2	100.0	153.9	169.2	192.3	-(1)
All Workers	103.5(2)	90.0(2)	100.0	148.2	159.6	180.4	200(2)
United States							
All Workers	-(1)	66.3	100.0	148.8	161.7	181.7	197.2

Source: Canada - Wage rate indices by trades are by courtesy of the Research and Statistics Branch, Department of Labour. Composite index for all workers for 1939-1947 is from the Labour Gazette, September 1948, Department of Labour. Composite index for 1948 is estimated on the basis of hourly earnings for July 1, 1947 and July 1, 1948, shown in the July 1948 issue of Statistics of Average Hours Worked and Average Hourly Earnings, Dominion Bureau of Statistics, adjusted for upward bias. Composite indices for 1929 and 1933 represent the medians of the trade indices for those years. United States - Survey of Current Business, United States Department of Commerce, Bureau of Foreign and Domestic Commerce, January and October, 1948, p. S.13; 1942 Supplement p. 55 and 1947 Supplement p. 63.

(1) Not available.
(2) Preliminary estimate.

TABLE XXI - PRICE INDICES OF FOREIGN AND DOMESTICALLY PRODUCED MACHINERY AND EQUIPMENT USED IN DOMESTIC INVESTMENT IN DURABLE PHYSICAL ASSETS, CANADA, SELECTED YEARS, 1929 - July, 1948.

Country and Item	1929	1933	1939	1945	1946	1947	July 1948
United States							
Wholesale Price Index of Metals and Metal Products	106.5	84.5	100.0	110.9	122.4	153.6	171.8
Price Index for Machinery and Equipment Produced in United States	106.3	86.5	100.0	125.0	137.1	164.4	182.2
Above Index adjusted for Changes in Canadian Import Costs(1)	101.0	99.4	100.0	139.2	129.0	146.2	161.9
United Kingdom							
Export Prices of Metal Goods Index	-(2)	-(2)	100.0	167.7	177.4	206.8	222.9
Canada							
Wholesale Price Index of Iron and Non-Ferrous Metals and their Products	109.8	87.9	100.0	116.6	126.5	151.3	175.3
Price Index of Machinery and Equipment Produced in Canada	105.2	88.5	100.0	128.1	138.6	161.5	192.0
General Price Index of Machinery and Equipment Used in Domestic Investment	103.5	91.7	100.0	133.4	133.6	154.2	179.8

Source: United States - Wholesale price index of metals and metal products from various issues of Monthly Labor Review, U.S. Department of Labor, Washington. Price index for machinery and equipment from Survey of Current Business, May 1943, p. 19, U.S. Department of Commerce for the years 1929 to 1942; other years estimated from index for metals and metal products and index of average hourly earnings of production workers in the iron and steel industries, Monthly Labor Review. Import costs estimated on basis of information supplied by courtesy of the Department of Finance, Department of National Revenue and Bank of Canada.
United Kingdom - Export prices of metal goods index from U.K. Monthly Digest of Statistics, London.
Canada - Wholesale price index of iron and non-ferrous metals and their products from issues of Prices and Price Indexes, Dominion Bureau of Statistics, Ottawa. Price index of machinery and equipment produced in Canada derived from above in conjunction with index of wage rates of all workers in iron and steel industries, issues of the Labour Gazette, Department of Labour, Ottawa. General price index calculated from the United States and Canadian produced machinery and equipment.

(1) Import costs include an allowance for exchange differentials between the Canadian and U.S. Dollar, customs duty, sales tax, excise tax and war exchange tax.
(2) Not available.

TABLE XXII- INDICES OF WHOLESALE PRICES OF SELECTED BASIC MATERIALS, CANADA AND UNITED STATES, SELECTED YEARS, 1929 - JULY, 1948.

Country and Item	1929	1933	1939	1945	1946	1947	July 1948
Canada							
Lumber	110.1	75.3	100.0	170.7	180.3	233.0	283.8
Pig Iron (1)	112.6	93.2	100.0	109.9	127.3	161.0	195.2
Steel billets	93.0	87.9	100.0	121.5	133.1	141.6	175.7
Copper ingots	185.5	80.7	100.0	106.7	106.7	177.4	199.8
Lead ingots	157.8	87.5	100.0	118.1	118.1	283.2	374.2
Zinc ingots	168.8	110.4	100.0	126.7	126.7	230.6	275.0
Coal	100.9	92.4	100.0	130.6	132.7	147.0	165.4
Coke	86.5	82.6	100.0	103.1	108.3	133.6	186.8
Asbestos	141.8	95.9	100.0	97.8	97.8	138.3	170.3
United States							
Lumber	100.6	75.9	100.0	166.4	191.1	297.4	339.9
Steel billets	101.9 (2)	76.5 (2)	100.0 (2)	103.5	114.6	127.5	132.5
Coal (3)	96.5	88.9 (2)	100.0	126.7	136.9	160.9	195.0
Coke	80.1	71.9 (2)	100.0	125.5	133.0	157.8	201.0

Source: Canada: Indices for lumber, coal, coke and asbestos obtained from Prices and Price Indexes, Dominion Bureau of Statistics, Ottawa. Remaining data by courtesy the Prices Branch, Dominion Bureau of Statistics. The pig iron index represents a weighted average of malleable and foundry pig iron prices. United States: Data obtained from monthly issues of Average Wholesale Prices and Index Numbers of Individual Commodities, Department of Labor, Bureau of Labor Statistics, Washington, and of Statistical Abstract of the United States, U. S. Department of Commerce

(1) Weighted average of malleable and foundry pig iron.
(2) Index compiled on basis of price quotations.
(3) Weighted average of anthracite and bituminous comparable to weighting in Canadian index.

TABLE XXIII- FINANCIAL STATISTICS OF SAMPLE GROUPS OF MACHINERY AND EQUIPMENT COMPANIES, ABSOLUTES, RATIOS AND CHANGES, CANADA, SELECTED YEARS, 1936 - 1947.

Item	45 Iron and Steel Products Companies					18 Non-Ferrous Metal Companies				
	1936	1939	1945	1946	1947	1936	1939	1945	1946	1947
Totals (in thousands of dollars)										
Net Profit Before Tax	6,572	15,241	23,634	25,181	37,336	73,001	86,304	87,069	102,160	147,396
Depreciation	3,824	4,203	6,820	5,437	7,730	8,898	10,370	16,183	10,935	12,496
Gross Investment in Fixed Assets	113,952	128,554	197,669	212,935	235,108	290,683	328,156	378,969	394,352	415,830
Ratios (in per cent)										
Net Profit Before Tax to Gross Fixed Assets	5.8	11.9	12.0	11.8	15.9	25.1	26.3	23.0	25.9	35.6
Depreciation to Gross Fixed Assets	3.4	3.3	3.5	2.6	3.3	3.1	3.2	4.3	2.8	3.0
Changes (in per cent)										
Net Profit Before Tax	-	+131.9	+55.1	+ 6.5	+ 48.3	-	+18.2	+ 0.9	+17.3	+44.8
Depreciation	-	+ 9.9	+62.5	-20.4	+ 42.2	-	+16.5	+56.1	-32.4	+14.3
Gross Investment in Fixed Assets	-	+ 12.8	+53.8	+ 7.7	+ 10.4	-	+12.9	+15.5	+ 4.1	+ 5.4

TABLE XXIII FINANCIAL STATISTICS OF SAMPLE GROUPS OF MACHINERY AND EQUIPMENT COMPANIES, ABSOLUTES, RATIOS AND CHANGES, CANADA, SELECTED YEARS, 1936 - 1947. - Continued

Item	47 Machinery (Excluding Electrical) Companies					27 Electrical Machinery Companies				
	1936	1939	1945	1946	1947	1936	1939	1945	1946	1947
Totals (in thousands of dollars)										
Net Profit Before Tax	7,083	10,153	37,985	30,030	56,472	5,078	7,423	15,034	12,103	27,863
Depreciation	2,982	3,941	7,317	6,465	7,127	2,031	2,379	3,036	3,778	5,139
Gross Investment in Fixed Assets	114,437(1)	128,046(1)	176,193(1)	186,917(1)	195,726(1)	51,031(2)	52,394(2)	68,470(2)	76,060(2)	88,095(2)
Ratios (in per cent)										
Net Profit Before Tax to Gross Fixed Assets	6.2	7.9	21.6	16.1	28.9	10.0	14.2	22.0	15.9	31.6
Depreciation to Gross Fixed Assets	2.6	3.1	4.2	3.5	3.6	4.0	4.5	4.4	5.0	5.8
Changes (in per cent)										
Net Profit Before Tax	-	+ 43.3	+274.1	- 20.9	+ 88.1	-	+ 46.2	+ 102.5	-19.5	+130.2
Depreciation	-	+ 32.2	+ 85.7	- 11.6	+ 10.2	-	+ 17.1	+ 27.6	+24.4	+ 36.0
Gross Investment in Fixed Assets	-	+ 11.9	+ 37.6	+ 6.1	+ 4.7	-	+ 2.7	+ 30.7	+11.1	+ 15.8

Source: Compilation based on data supplied by courtesy of Bank of Canada.
(1) For 46 companies - Canadian Ingersoll Rand not available.
(2) For 26 companies - Canadian Westinghouse not available.

TABLE XXIV FINANCIAL STATISTICS OF MACHINERY AND EQUIPMENT COMPANIES, BUILDING MATERIAL PRODUCING COMPANIES AND RELATED COMPANIES, ABSOLUTES AND RATIOS, CANADA, 1944-1946

Item	Profit Companies								
	Primary Iron and Steel Products			Non-Ferrous Smelting Refining and Rolling			Industrial Construction and Lifting Machinery		
	1944	1945	1946	1944	1945	1946	1944	1945	1946
Totals (All money figures in $000)									
Number of Companies Subject to Income Tax	74	78	84	56	60	62	371	368	363
Number of Companies Fully Reporting	73	77	83	53	59	60	363	355	351
Gross Sales	293,845	300,942	279,411	258,753	146,119	142,665	222,017	200,481	199,757
Current Year's Profits or Losses	24,650	21,514	18,496	22,973	20,779	20,672	25,025	20,742	21,318
Depreciation Charged	13,202	8,345	7,616	57,004	5,388	5,263	4,536	2,691	2,824
Capital Expenditures(1)	9,499	10,936	11,220	23,978	2,520	6,004	2,788	4,127	6,739
Fixed Assets	224,568	217,429	261,701	322,093	322,185	325,218	70,958	75,426	72,580
Total Assets	388,601	368,342	411,745	468,522	452,678	448,931	199,739	204,057	199,654
Ratios (in per cent)									
Current Year's Profit or Loss to Gross Sales	8.4	7.1	6.6	8.9	14.2	14.5	11.3	10.3	10.7
Current Year's Profit or Loss to Fixed Assets	11.0	9.9	7.1	7.1	6.4	6.4	35.3	27.5	29.4
Depreciation Charges to Fixed Assets	5.9	3.8	2.9	17.7	1.7	1.6	6.4	3.6	3.9

TABLE XXIV FINANCIAL STATISTICS OF MACHINERY AND EQUIPMENT COMPANIES, BUILDING MATERIAL PRODUCING COMPANIES AND RELATED COMPANIES ABSOLUTES AND RATIOS, CANADA, 1944-1946.-Continued

Item	Profit Companies								
	Electrical Machinery and Appliances			Agricultural Machinery			Cement Gypsum and Plaster Products		
	1944	1945	1946	1944	1945	1946	1944	1945	1946
Totals (All money figures in $000)									
Number of Companies Subject to Income Tax	149	155	162	24	25	29	30	37	46
Number of Companies Fully Reporting	139	149	157	24	23	29	29	37	44
Gross Sales	266,875	279,860	302,522	49,816	112,471	155,998	28,875	32,637	46,533
Current Year's Profits or Losses	21,750	21,848	22,981	6,767	7,602	11,781	3,339	5,366	9,038
Depreciation Charged	3,319	3,801	4,002	1,125	1,134	1,844	2,411	2,101	3,277
Capital Expenditures(1)	2,087	9,376	12,933	933	2,755	3,327	1,280	1,701	4,909
Fixed Assets	65,879	97,048	94,604	25,982	37,540	55,047	78,061	80,569	85,341
Total Assets	210,810	272,654	245,458	38,820	139,334	166,938	100,315	105,331	109,366
Ratios (in per cent)									
Current Year's Profit or Loss to Gross Sales	8.1	7.8	7.6	13.6	6.8	7.6	11.7	16.4	19.4
Current Year's Profit or Loss to Fixed Assets	33.0	22.5	24.3	26.0	20.3	21.4	4.3	6.7	10.6
Depreciation Charges to Fixed Assets	5.0	3.9	4.2	4.3	3.0	3.3	3.1	2.6	3.8

TABLE XXIV FINANCIAL STATISTICS OF MACHINERY AND EQUIPMENT COMPANIES, BUILDING MATERIAL PRODUCING COMPANIES AND RELATED COMPANIES ABSOLUTES AND RATIOS, CANADA, 1944-1946.-Continued

Item	Profit Companies								
	Paints and Varnishes			Heating Apparatus and Sanitary Ware			All Manufacturing Companies		
	1944	1945	1946	1944	1945	1946	1944	1945	1946
Totals (All money figures in $000)									
Number of Companies Subject to Income Tax	62	62	66	75	82	89	6,046	6,426	6,998
Number of Companies Fully Reporting	59	57	63	71	82	86	5,862	6,248	6,773
Gross Sales	51,738	49,451	69,064	65,937	88,987	92,550	6,585,004	6,996,009	6,838,403
Current Year's Profits or Losses	5,840	5,593	7,279	7,346	7,216	12,207	619,861	610,843	709,326
Depreciation Charged	510	468	553	2,000	1,436	1,352	190,171	131,516	134,723
Capital Expenditures(1)	525	730	2,752	1,001	2,037	1,848	123,563	149,818	288,827
Fixed Assets	21,936	19,777	24,915	36,134	48,929	49,060	3,399,025	3,636,727	3,871,247
Total Assets	55,746	51,053	62,427	74,276	97,942	97,183	7,010,545	7,336,358	7,604,008
Ratios (in per cent)									
Current Year's Profit or Loss to Gross Sales	11.3	11.3	10.5	11.1	8.1	13.2	9.4	8.7	10.4
Current Year's Profit or Loss to Fixed Assets	26.6	28.3	29.2	20.3	14.7	24.9	18.2	16.8	18.3
Depreciation Charges to Fixed Assets	2.3	2.4	2.2	5.5	2.9	2.8	5.6	3.6	3.5

TABLE XXIV FINANCIAL STATISTICS OF MACHINERY AND EQUIPMENT COMPANIES, BUILDING MATERIAL PRODUCING COMPANIES AND RELATED COMPANIES ABSOLUTES AND RATIOS, CANADA, 1944-1946,-Continued

Item	All 'Loss' Manufacturing Companies			All 'Profit' and 'Loss' Manufacturing Companies		
	1944	1945	1946	1944	1945	1946
Totals (All money figures in $000)						
Number of Companies Subject to Income Tax	1,130	1,309	1,594	7,176	7,735	8,592
Number of Companies Fully Reporting	976	1,163	1,441	6,838	7,411	8,214
Gross Sales	190,405	213,990	380,942	6,775,409	7,209,999	7,219,345
Current Year's Profits or Losses	5,340	7,791	16,308	614,521	603,052	693,018
Depreciation Charged	4,999	3,797	7,167	195,170	135,313	141,890
Capital Expenditures (1)	6,394	7,020	29,096	130,457	156,838	317,923
Fixed Assets	117,409	115,740	203,940	3,516,434	3,752,467	4,075,187
Total Assets	203,863	225,686	434,281	7,214,408	7,562,044	8,038,289
Ratios (in per cent)						
Current Year's Profit or Loss to Gross Sales	2.8	3.6	4.3	9.1	8.4	9.6
Current Year's Profit or Loss to Fixed Assets	4.5	6.7	8.0	17.5	16.1	17.0
Depreciation Charges to Fixed Assets	4.3	3.3	3.5	5.6	3.6	3.5

Source: Compilation based on annual issues of Taxation Statistics, Department of National Revenue, Ottawa.

(1) Including expenditures for construction, new machinery and equipment and for the purchase of real estate and used machinery and equipment.

TABLE XXV FINANCIAL STATISTICS OF MACHINERY AND EQUIPMENT COMPANIES, BUILDING MATERIAL PRODUCING COMPANIES AND RELATED COMPANIES, AVERAGES AND CHANGES IN AVERAGES, CANADA, 1944-1946

Item	Profit Companies								
	Primary Iron and Steel Products			Non-Ferrous Smelting Refining and Rolling			Industrial Construction and Mining Machinery		
	1944	1945	1946	1944	1945	1946	1944	1945	1946
Average Per Fully Reporting Company (In $000)									
Gross Sales	4,025	3,908	3,366	4,882	2,477	2,378	612	565	569
Current Year's Profit or Loss	338	279	223	433	352	345	69	58	61
Depreciation Charged	181	108	92	1,076	91	88	12	8	8
Capital Expenditures(1)	130	142	135	452	43	100	8	12	19
Fixed Assets	3,076	2,824	3,153	6,077	5,461	5,420	195	212	207
Total Assets	5,323	4,784	4,961	8,840	7,673	7,482	550	575	569
Change in Average from Previous Year (In Per Cent)									
Gross Sales	-	- 2.9	- 13.9	-	- 49.3	- 4.0	-	- 7.7	+ 0.7
Current Year's Profit or Loss	-	- 17.5	- 20.1	-	- 18.7	- 2.0	-	- 15.9	+ 5.2
Depreciation Charged	-	- 40.3	- 14.8	-	- 91.5	- 3.3	-	- 33.3	-
Capital Expenditures(1)	-	+ 9.2	- 4.9	-	- 90.5	+132.6	-	+ 50.0	+ 58.3
Fixed Assets	-	- 8.2	+ 11.7	-	- 10.1	- 0.8	-	+ 8.7	- 2.4
Total Assets	-	- 10.1	+ 3.7	-	- 13.2	- 2.5	-	+ 4.5	- 1.0

TABLE XXV FINANCIAL STATISTICS OF MACHINERY AND EQUIPMENT COMPANIES, BUILDING MATERIAL PRODUCING COMPANIES AND RELATED COMPANIES, AVERAGES AND CHANGES IN AVERAGES, CANADA, 1944-1946 - Continued

Item	Profit Companies								
	Electrical Apparatus and Appliances			Agricultural Machinery			Cement Gypsum and Plaster Products		
	1944	1945	1946	1944	1945	1946	1944	1945	1946
Average Per Fully Reporting Company (In $000)									
Gross Sales	1,920	1,878	1,927	2,076	4,890	5,379	985	882	1,058
Current Year's Profit or Loss	156	147	146	282	331	406	115	145	205
Depreciation Charged	24	26	25	47	49	64	83	57	74
Capital Expenditures(1)	15	63	82	39	120	287	44	46	112
Fixed Assets	474	651	603	1,083	1,632	1,898	2,692	2,172	1,940
Total Assets	1,517	1,830	1,553	3,701	6,058	5,756	3,459	2,848	2,486
Change in Average from Previous Year (In Per Cent)									
Gross Sales	-	- 2.2	+ 2.6	-	+135.5	+ 10.0	-	- 10.5	+ 20.0
Current Year's Profit or Loss	-	- 5.8	- 0.7	-	+ 17.4	+ 22.7	-	+ 26.1	+ 41.4
Depreciation Charged	-	+ 8.3	- 3.8	-	+ 4.3	+ 30.6	-	- 31.3	+ 29.8
Capital Expenditures(1)	-	+320.0	+ 30.2	-	+207.7	+139.2	-	+ 4.5	+143.5
Fixed Assets	-	+ 37.3	- 7.4	-	+ 50.7	+ 16.3	-	- 19.3	- 10.7
Total Assets	-	+ 20.6	- 14.6	-	+ 63.7	- 5.0	-	- 17.7	- 12.7

TABLE XXV FINANCIAL STATISTICS OF MACHINERY AND EQUIPMENT COMPANIES, BUILDING MATERIAL PRODUCING COMPANIES AND RELATED COMPANIES, AVERAGES AND CHANGES IN AVERAGES, CANADA, 1944-1946 - Continued

Item	Profit Companies								
	Paints and Varnishes			Heating Apparatus and Sanitary Ware			All Manufacturing Companies		
	1944	1945	1946	1944	1945	1946	1944	1945	1946
Average Per Fully Reporting Company (In $000)									
Gross Sales	877	868	1,096	929	1,085	1,076	1,123	1,120	1,010
Current Year's Profit or Loss	99	98	116	103	88	142	106	98	105
Depreciation Charged	9	8	9	28	18	16	32	21	20
Capital Expenditures(1)	9	13	44	14	25	21	21	24	43
Fixed Assets	372	347	395	509	597	570	580	582	572
Total Assets	945	896	991	1,046	1,194	1,130	1,196	1,174	1,123
Change in Average from Previous Year (In Per Cent)									
Gross Sales	-	- 1.0	+ 26.3	-	+ 16.8	- 0.8	-	- 0.3	- 9.8
Current Year's Profit or Loss	-	- 1.0	+ 18.4	-	- 14.6	+ 61.4	-	- 7.5	+ 7.1
Depreciation Charged	-	- 11.1	+ 12.5	-	- 35.7	- 11.1	-	- 34.4	- 4.8
Capital Expenditures(1)	-	+ 44.4	+238.5	-	+ 78.6	- 16.0	-	+ 14.3	+ 79.2
Fixed Assets	-	- 6.7	+ 13.8	-	+ 17.3	- 4.5	-	+ 0.3	- 1.7
Total Assets	-	- 5.2	+ 10.6	-	+ 14.1	- 5.4	-	- 1.8	- 4.3

TABLE XXV FINANCIAL STATISTICS OF MACHINERY AND EQUIPMENT COMPANIES, BUILDING MATERIAL PRODUCING COMPANIES AND RELATED COMPANIES, AVERAGES AND CHANGES IN AVERAGES, CANADA, 1944-1946 - Continued

Item	All 'Loss' Manufacturing Companies			All 'Profit and Loss' Manufacturing Companies		
	1944	1945	1946	1944	1945	1946
Average Per Fully Reporting Company (In $000)						
Gross Sales	195	184	264	991	973	879
Current Year's Profit or Loss	- 5	- 7	- 11	90	81	84
Depreciation Charged	5	3	5	29	18	17
Capital Expenditures(1)	7	6	20	19	21	39
Fixed Assets	120	100	142	514	506	496
Total Assets	209	194	301	1,055	1,020	979
Change in Average from Previous Year (In Per Cent)						
Gross Sales	-	- 5.6	+ 43.5	-	- 1.8	- 9.7
Current Year's Profit or Loss	-	+ 40.0	+ 57.1	-	- 10.0	+ 3.7
Depreciation Charged	-	- 40.0	+ 66.7	-	- 37.9	- 5.6
Capital Expenditures(1)	-	- 14.3	+233.3	-	+ 10.5	+ 85.7
Fixed Assets	-	- 16.7	+ 42.0	-	- 1.6	- 2.0
Total Assets	-	- 7.2	+ 55.2	-	- 3.3	- 4.0

Source: Compilation based on annual issues of Taxation Statistics, Department of National Revenue, Ottawa.

(1) Including expenditures for construction, new machinery and equipment and for the purchase of real estate, and used machinery and equipment.

TABLE XXVI - CAPITAL EXPENDITURES AND ANTICIPATED EMPLOYMENT OF 764 NEW MANUFACTURING PLANTS, BY TYPE OF INDUSTRY, CANADA, 1944 - 1949

Type of Industry	Capital Expenditures(1) $ million	Anticipated Employment One Year After Completion	
		Total Number	Number per $ Million Capital Expenditures
1. Vegetable and Animal Products - Food			
Vegetable Food Products	12.8	4,253	332
Animal Food Products	4.3	3,728	865
Tobacco	8.7	3,420	391
Sub-total	25.9	11,401	441
2. Vegetable and Animal Products - Non-Food			
Rubber	.1	63	472
Leather	.8	1,261	1,523
Sub-total	1.0	1,329	1,329
3. Textiles & Textile Products			
Primary Textiles	22.2	8,285	373
Clothing and Other Textiles	4.6	6,664	1,438
Sub-total	26.8	14,949	558
4. Wood & Paper Products			
Lumber & Lumber Products	11.9	7,938	667
Pulp & Paper	80.4	7,669	95
Printing & Publishing	1.4	901	646
Sub-total	93.7	16,508	176
5. Iron & Its Products			
Primary Iron & Steel	1.3	566	407
Iron & Steel Fabricated Products (Excl. Vehicles)	15.9	8,191	516
Vehicles & Parts	7.7	3,955	517
Sub-total	24.9	12,712	511
6. Non-Ferrous Metal Products and Electrical Apparatus			
Non-Ferrous Metals	4.3	922	216
Electrical Apparatus	7.3	1,749	238
Sub-total	11.6	2,671	230
7. Non-Metallic Mineral Products			
Fuel & Fuel Products	7.3	492	67
Cement, Lime, Salt, Clay and Stone Products	25.2	3,357	133
Glass & Glass Products	2.4	835	348
Sub-total	34.9	4,684	134

TABLE XXVI. - CAPITAL EXPENDITURES AND ANTICIPATED EMPLOYMENT OF 764 NEW MANUFACTURING PLANTS, BY TYPE OF INDUSTRY, CANADA, 1944 - 1949. - Continued

Type of Industry	Capital Expenditures(1) $ million	Anticipated Employment One Year After Completion	
		Total Number	Number per $ Million Capital Expenditures
8. Chemicals & Allied Products			
Industrial, Domestic and Agricultural Chemicals	20.3	2,237	110
Drugs, Cosmetics, Soaps	.1	74	578
Miscellaneous Chemical Products	18.5	1,495	81
Sub-total	38.9	3,806	98
9. Miscellaneous Manufacturing Products	3.5	1,351	388
Total Manufacturing Industries	261.3	69,414	266

Source: Special compilation by Economic Research Branch, Department of Reconstruction and Supply based on submissions of applications for special depreciation of projects approved for execution between November 10, 1944 and March 31, 1949.

(1) Including some small expenditures for the purchase of existing real estate and used machinery and equipment.

APPENDIX B

NOTE ON THE STEEL SHORTAGE IN CANADA (1)

Steel has become one of the world's scarcest commodities. The new importance of steel in the world economy is the result of unprecedented demands for industrial plant, equipment and consumer goods. Already in short supply on the North American continent, the heavy commitments for European aid together with rapidly growing military requirements have now made the steel shortage even more acute. Canada, heavily dependent as she is on United States supplies, has been compelled to reduce imports sharply. Thus, the question of the expansion of Canada's steel capacity has become one of prime importance.

Canada today is one of the leading industrial nations of the world. Compared with prewar, industry has about doubled the volume of its production and is working at practical capacity. This year, gross national production is expecte to exceed $15 billion. Pressed by the urgent needs of war, industries were expanded and new ones were created. After the war these gains were consolidated and for the most part have been integrated into the Canadian economy. On the other hand in Europe and Japan industry was destroyed and disorganized. Thus, Canada's importance as a modern industrial power has been established.

Now, a further period of intensive industrialization in Canada is in process. Each year investment in plant and equipment has exceeded its previous peak and surpasses by far the levels attained during the war. In 1948, total private and public investment is expected to reach the spectacular level of $3 billion, about 10 per cent greater in volume than last year. Forced into industrial maturity in less than a decade, the tempo of Canada's industrial development has increased.

New industrial goals have been imposed on the Canadian economy because of the exchange problem and continued inflation. Production must be expanded to increase total domestic supply. Imports are being reduced to save United States dollars and exports increased to add to our dollar earnings. Much of the increase in production and accompanying expansion facilities will have to occur in steel using industries. Moreover, military requirements from Canadian production may also be expected to increase.

Although steel capacity has been increased by about 60 per cent since prewar and production has almost doubled, Canadian steel requirements are far from

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(1) This note is based on an article, Steel - The Key to Industrial Expansion, by M. Hollinger, Public Affairs, Dalhousie University, Halifax, Fall, 1948.

being filled and remain heavily dependent on imports. Thus, the structure of the steel industry, an examination of its capacity in relation to Canadian requirements and the extent and duration of the world steel shortage are of special interest at present.

The Canadian Iron and Steel Industry

The Canadian industry may perhaps best be described by tracing first the flow of materials through the steel making process. To begin with, iron ore, coke and limestone (a flux) are reduced to iron in blast furnaces. The iron, apart from about 20 per cent of which is sold principally to foundries as pig iron is then made into carbon steel. This is done in open-hearth furnaces into which are charged the molten iron, scrap (now about 55 per cent of the total) and sometimes ferro-alloys. Electric furnaces, mainly used for making special quality carbon steels, account for about 15 per cent of total steel output. Alloy steel production which accounts for about 5 per cent of the total is made in both types of furnace. Nearly all the steel ingot is used in the steel mills; only small amounts are made directly into castings. The primary industry ends with the rolling and drawing mills in which steel is reduced to standard shapes and forms, depending on the needs of secondary manufacturing industries, e.g. structurals for construction and plates for ships.

The structure of the industry is largely determined by the degree of integration from raw materials to rolling mills. In all there are about 15 basic iron and steel producers in Canada. The 'big three', the Steel Company of Canada, Dominion Steel and Coal Corporation and Algoma Steel Corporation, which account for over 80 per cent of steel ingot output, combine all processing stages from coke and iron to finished rolling mill products. Vertical integration is a characteristic of all North American steel production. The next largest company, Dominion Foundries and Steel Company, makes its steel for rolling from scrap, and iron when available; it has no blast furnace. Another five, but much smaller companies, do the same. Canadian Furnace at Port Colborne produces pig iron only. Three other companies produce rolling or drawing mill products; they have neither blast nor steel furnaces.

Canadian iron ore and coal resources are abundant but the major deposits lie far to east and west of the industrialized areas of central Canada. On the other hand American iron and coal resources are centrally located and with easy access to the Lakes have been more economic to use. Thus, of about 4.2 million

tons of iron ore used by the Canadian industry in 1947, 3.1 million tons were from the United States (Minnesota and Michigan), 800,000 tons were from the Waban fields in Newfoundland and about 300,000 tons were produced in Canada. Another 1.7 million tons of Canadian production were exported to the United States. A large part of this was mined at Steep Rock where the ore is of a relatively high grade and advantageous to export for economic and technological reasons. About 70 per cent of the bituminous coal used by the industry is imported from the Unit States, mainly Virginia and Pennsylvania.

Canada's iron ore and coal resources are now to be developed more fully. The most important program for iron is being carried out in the lower Quebec-Labrador area, where there are extensive ore bodies. These deposits which give added importance to the development of the St. Lawrence waterways, may prove to be of world importance as an abundant source of high grade ore. Nevertheless, Canada cannot expect to reduce her dependence on raw materials from the United States for many years. This also applies to her hydro power potential which, to some extent, offers an alternative to the use of coal in the production of steel.

In general, the conflux of the Canadian iron and steel industry is aroun the Great Lakes, which provide cheap water transportation for bulky raw materials from the United States and relatively easy access to industrial markets in Ontari and Quebec. Stelco and Dofasco in Hamilton are in the heart of the most industrialized regions in Canada - south-eastern Ontario. In addition to closeness to markets, they have the advantages of a large local supply of scrap and a diverse demand for steel products which can be produced and shipped to nearby mar kets. These companies are able to compete best with United States producers in the Canadian market.

Algoma at Sault Ste. Marie and Dosco in Sydney, N.S., however, pose serious problems of location, especially since they account for about 75 per cent of total employment in their respective areas. Algoma, originally situated to take advantage of the large rail market provided by the Canadian railway boom in central and in eastern Canada, was in difficulty when this demand dropped. Dosc was established with an eye to export markets and an abundant local supply of ra materials. But the markets did not fully materialize and the raw materials involve many mining and metallurgical problems. Both companies have therefore be at some disadvantage in relation to central Canadian markets. In an attempt - which has brought a certain measure of success - to overcome this handicap Dosco

acquired a number of secondary manufacturing subsidiaries - shipbuilding, lumber-yards, bridge-building and railway rolling stock, etc.

In 1939 there were 10 blast furnaces in Canada with an annual rated capacity of about 1.5 million gross tons of iron. At present there are 14 furnaces with an annual rated capacity of about 2.5 million gross tons. Steel furnace capacity has been increased from a rated capacity of over 2 million net tons of ingots prewar to about 3.2 million tons. Rolling mill capacity was also increased and is now about 2.7 million net tons. This figure does not allow for the cold sheet and strip rolling mill recently completed in Hamilton. Effective capacity of the furnaces and rolling mills is somewhat less.

Wartime expansion of steel facilities was such that the relationship between capacities at various stages in the steel making process was improved, However, some important problems appear to remain. For example, since there is a material loss of about 27 per cent in converting steel ingots into rolling mill products, the figures given above suggest that steel ingot capacity is about 400,000 tons too small in relation to rolling mill capacity. The result has been that the rolling mills are not fully used despite substantial imports of United States shapes for rolling in Canada. In fact, the new cold sheet and strip mill can use a substantial tonnage of steel which at present is not available. Further, difficulties also arise because the steel ingot capacity of individual producers is not in proportion to their rolling mill capacity. Thus, it has been necessary for the Federal Government to arrange and aid inter-company shipments of steel for rolling. Effective blast furnace capacity also may be considered insufficient in relation to steel furnace capacity.

The Steel Shortage

In 1947 Canadian industry consumed about 3.1 million net tons of steel rolling mill products, compared with about 1.9 million tons in 1937. Of this, Canadian steel mills shipped about 2.4 million net tons, but this includes forms milled from imported shapes. Production from Canadian Steel probably amounted to about 2.2 million net tons. The remainder, 900,000 tons, was imported and represented about 30 per cent of Canadian consumption. This was nearly 10 per cent lower than in 1937.

Whereas before the war Canada imported substantial amounts from the United Kingdom, last year nearly all imports were from the United States. Canadian imports of United States steel last year were slightly over 1 per cent

of their production and roughly 17 per cent of their exports.

Canadian steel requirements for 1948 have been estimated at about 3.6 million net tons of rolling mill products. Some estimates are above this figure Due to increased production, supply during 1948 is expected to be about 100,000 tons greater than last year. Thus, the steel shortage would seem to amount to at least 400,000 net tons, or about 15 per cent of current domestic production.

Domestic production of steel ingots this year is at an annual rate of over 3 million net tons and may be expected to provide about 200,000 net tons of rolling mill products more than last year. Ingot production at this rate is near practical capacity, the main limiting factors being the shortage of iron and especially of scrap. Canadian steel mills (aided by subsidiaries) have been tapping all available sources of scrap, including points as far away as Hong-Kong and Australia.

On the other hand, Canada's steel imports in the first eight months of this year were about 20,000 tons below last year. In the last three months of 1948, Canada has voluntarily agreed to limit imports from the United States to a level approximately 70,000 tons below that in the same period of 1947. The largest reductions in imports are to be of structurals, plate, sheet, pipe, tubes, skelp and wire. This agreement, which is to extend into 1949, results directly from the growing demands for rearmament added to the existing world shortage of steel.

World steel ingot production in 1947 amounted to about 157 million net tons. Although this was above immediate prewar rates, it was still well below the peak production during the thirties, about 165 million net tons in 1937. The reasons for this were the sharp drop in the output of two major prewar steel producers, Germany and Japan, and the inability of the United Kingdom, France, Belgium - Luxembourg to exceed peak prewar rates of production.

The main impact of the present world shortage has been on the United States. Although United States steel ingot production has increased from 57 million net tons in 1937 to about 85 million net tons last year, it has not filled the yawning gap in world steel demand. At the same time a number of major United States industries are operating considerably below capacity. The result has been domestic pressure to reduce exports of steel mill products. A special impetus has been given to these demands with the passage of the Economic Cooperation Act, since American industry will seek to make greater use of domestic

steel in supplying European needs for manufactured steel products. In fact, this year the United States expects to reduce its steel exports by over 10 per cent. Further pressure on United States exports is now developing quickly because of growing military demands. United States civilian production has already been seriously affected.

Thus, it cannot be expected that there will be any significant improvement in Canada's steel position this year or next. In fact, judging by present trends, the steel shortage in Canada may be greater next year and perhaps for several years to come. Canadian industry will therefore have to rely more and more on domestic steel capacity.

Effects of the Steel Shortage

In Canada the steel shortage has limited industrial production in general, and many industries have been operating below capacity. In some plants production has at times been stopped entirely. Productivity has been adversely affected and production costs greatly increased. The pressure on prices has been maintained by the resulting shortages of manufactured goods. At the same time rising steel prices, though restrained by controls and subsidies, have been a powerful lever in the general increase in prices.

Limits have also been imposed on industrial development. Expansion, replacement and modernization of industry have at many points been delayed or deferred particularly in the hydro power, petroleum and pulp and paper industries. Consequently progress toward a more diversified and stable industrial structure and eventual solution of the Canadian balance of payments difficulties has been retarded.

The impact of the steel shortage on production and exports is best seen in the experience of three of the more important industries: motor vehicles, railway rolling stock and agricultural implements.

The automobile industry is of special interest because of its relative size and the effort being made to develop greater self-sufficiency. In 1947, the industry imported about $190 million of vehicles and parts from the United States. One of the largest consumers of steel, last year the automobile industry took about 12 per cent of available supplies of which more than half came from the United States. If the production of vehicles and the degree of fabrication in Canada is to be increased significantly, substantial additional supplies of steel will have to be made available. But the industry is finding

it difficult even to maintain present output, already well below capacity.

At present the rolling stock industry, which takes about 6 per cent of total Canadian steel supply, is fully booked on domestic and export orders. The former are urgently needed by the railways and the latter are desirable as they are to be paid for in hard currency. However, steel deliveries, and to a lesser extent a shortage of other components, have only permitted output at roughly only half of capacity. As a result, domestic deliveries are little more than sufficient to meet current replacement needs of the railways, and exports have taken even less advantage of the large foreign demand.

The agricultural implements industry is another large consumer of steel, using about 5 per cent of the total supply. This industry is perhaps best able to increase its dollar earnings since the absence of tariffs permits the extension of the division of labour between Canada and the United States in the production of implements. Other export outlets appear to be equally favourable. However, production is now below capacity and cannot be expanded due mainly to the shortage of steel.

Other industries which are important consumers of steel (approximate percentage of total supply used is given in brackets) are railways (11 per cent containers (8 per cent), machinery (7 per cent), mining, petroleum and lumbering (3 per cent), and shipbuilding (2 per cent), as well as durable consumer goods. In all of these the demand for steel is pressing.

The Steel Outlook for Canada

At present, available steel supplies do not seem adequate to satisfy the most pressing Canadian demands, to say nothing of the large unsatisfied demands for industrial development and for export. What then is the steel out lock for Canada?

Targets for 1951, which it is hoped will meet world requirements, call for an annual output of 193 million net tons, an increase of about 36 million net tons over 1947. About 4 or 5 million net tons is expected from the United States. Europe, including Russia, hopes to increase production by about 30 million net tons to an output of about 96 million tons. Elsewhere, additions to production are not likely to be large. The target of 61 million tons for t Western European countries alone involves continued recovery at a rate of about 17 per cent per year, the rate actually achieved in 1947. However, the United States House Committee on Foreign Aid is of the opinion that Western Europe will

fail to reach its 1951 target by about 4 or 5 million tons. Thus, the European and world steel shortage is likely to persist for some time into the 1950's, with consequent continued pressure on North American production. Canada's prospects for importing steel must be viewed in this light.

What is the prospect for an expansion of Canadian steel capacity? This depends on the one hand, on the industry's judgment about future markets in relation to present high costs of new facilities, and on the other, on the national interest in expanding the production of this industry which is basic to Canada's growing economy.

Summary

This note has attempted to outline briefly the importance of steel in the Canadian industrial economy and to provide background against which the current discussion concerning the expansion of steel capacity may be considered. It has pointed to the accelerated pace of industrialization in Canada which has brought this country into the first rank of world industrial powers and the consequent new importance of the primary iron and steel industry to the whole economy. It has outlined the results of wartime expansion of this industry, the great increase in capacity and improvement of Canadian steel making facilities. Withal the shortage is still acute and there is an apparent lack of balance at various stages in our steel-making facilities. This country still depends heavily on imports and supplies that can be expected from abroad are limited. The favourable prospect for the development of Canadian iron ore resources has been noted; also the increased integration of the steel industry itself into the most industrialized region of Canada. Finally, in reviewing the experience of selected Canadian industries, the steel shortage as a factor in retarding industrial development, and contributing to inflation has been noted.

APPENDIX C

NOTE ON INVESTMENT AND PRICES IN THE UNITED STATES - REVIEW AND OUTLOOK(1)

This appraisal is divided into five parts: (1) the long-run outlook for prices; (2) the long-run demand for capital; (3) the long-run supply of investment-seeking funds; (4) the short-term business outlook; and (5) economic stability and the investment boom.

Long-Run Outlook for Prices

Great wars have usually been followed by a long decline in prices. The Napoleonic Wars were followed by a drop in the index of wholesale prices in the United States from 155 in 1814 to 60 in 1849; the Civil War by a drop from 132 in 1865 to 47 in 1896; the First World War by a drop from 154 in 1920 to 65 in 1932.

In the summer of 1948, the price level in the United States has risen higher than ever before. Most economists appear to believe that history will repeat itself, and that World War II will be followed by an extended period in which the dominant movement of prices will be downward. For example, 62 non-government economists who responded to a questionnaire of the Farm Credit Administration forecast that the price level in the quinquennial 1956-60 would be slightly below the period 1946-50. The experts for the Committee of European Economic Cooperation, in estimating the balance of trade of Western Europe between 1948 and 1951 assume a slow decline in prices. The Bureau of Agricultural Economics, in a study on the long-run outlook for agriculture, recently estimated that during the decade 1955-65 consumer prices will average about 10 per cent below 1947 and wholesale prices about 18 per cent below. These estimates of prices are based on the assumption of "high" employment during the decade. The Bureau of Agricultural Economics regards "high" employment as more likely than "intermediate" or "low" employment.

It is argued, however, that these general appraisals pointing to a prominent downward price trend continuing for some time fail to take account of major changes in world conditions, in economic institutions, and in public policies.

(a) The expectations for an extended period of falling prices are based upon the assumption that the Second World War will be followed by an extended

(1) This note is substantially based on an address entitled Price Trends and Capital Demand and Supply by Dr. Sumner Slichter, Lamont University Professor, Harvard University, before the Mortgage Bankers Association of America, New York City, September 22, 1948.

period of peace--as were the Napoleonic Wars, the Civil War, and the First World War. The Second World War is over, but it has not been followed by peace. Guerilla warfare continues in many parts of the world (including parts which are important sources of many raw materials) and in other parts of the world there is an armed truce. There is no immediate sign that this armed truce will end at an early date. As long as this condition exists, military demands upon the raw materials and the industrial capacity of the world will be greater than ever before in time of "peace".

(b) The relationship between the fabricating capacity of the world and raw material capacity is different today from what it was during the nineteenth century and even after the First World War. During most of the nineteenth century the industrialization of the world's economies had made little progress outside of Britain and the northeastern part of the United States. In view of the limited capacity of the world to convert raw materials into manufactured goods, discoveries of new sources of supply and the opening of important new regions (such as the upper Mississippi River valley or the lumber regions of the Great Lakes or the South or the Pacific Northwest) could produce substantial effects upon raw materials prices. Even after the First World War the opportunities to bring about great increases in raw materials relative to the demand for them were still very great.

Today the situation is quite different. Fabricating capacity has been growing during the last 20 years all over the world, and the war made heavy inroads upon the most accessible supplies of many raw materials. The discovery of new sources of most raw materials has not kept pace with the rapidly growing demand for them. Hence, despite the great destruction of industrial capacity in Germany, the prospect is that many raw materials will be scarce in relation to demand for years to come. This appears to be particularly true of high grade lumber, most metals, and fuels. Food products, it is true, will become far more abundant relative to demand than they are today, but there is no immediate prospect that they will become as abundant relative to demand as before the war. Not only has population substantially increased in most parts of the world, but there has been a large movement from the country to the cities.

(c) An important change has been occurring in the nature of the costs of production as a result of the gradual transformation of the economy from one composed in the main of self-employed persons to one in which most workers are

employees. Enterprises operated in the main or entirely by owners respond to a drop in demand in a very different way from enterprises operated in the main by hired employees because the former type of concern has almost negligible out-of-pocket costs. Hence a drop in demand has little effect upon the willingness of the concern to maintain production. In fact, a drop in demand may even induce an expansion of output. Concerns which use hired employees, however, must ordinarily limit their output to the amount which can be sold at prices which cover the wages of employees. As late as 1840, about 40 per cent of the gainfully employed in the United States were self-employed. Today only about one out of five gainfully employed is self-employed. During periods when the long-term movement of prices was downward, most of the decline was concentrated in periods of depression. The changed nature of costs means that decreases in demand are far less effective in inducing reductions in prices than they were when the economy was composed of largely of self-employed.

(d) A basic change has occurred in the public policies of the community since the nineteenth century and even since the First World War. The price declines which occurred after the Napoleonic and Civil Wars and even after the First World War occurred in a community which was committed in the main to the policy of laissez faire. At any rate no vigorous effort was made after either the Napoleonic Wars or the Civil War to halt the decline in prices. Some attempts were made to cushion the fall of prices after the First World War, but these efforts are not being regarded as vigorous by present-day standards. The fact that the government's fiscal policies were concerned little with the decline in prices after the Napoleonic Wars and the Civil War is reflected in the budget position in this period. In the 22 years between 1814 and 1836 the Federal budget showed a surplus in 18, a deficit is only three, and neither surplus nor deficit in one. In the 31 years between 1865 and 1896 the Federal budget showed a surplus in 28 and a deficit in three. Indeed, it showed a surplus even throughout the severe depression of the eighteen seventies.

In partial explanation of the laissez faire policy of the government toward the decline in prices after the great wars of the past should be mentioned the fact that these declines did not necessarily create serious problems--though this was hardly true of the eighteen seventies. The public debt (even at the end of the Civil War) was low relative to the national income, and population and production were rapidly expanding. It is held unlikely that the United States

today with an enormous national debt would tolerate as large a decline in prices as followed the Napoleonic Wars, the Civil War, or the First World War.

(e) The Federal government today has more effective instruments to combat a decline in prices than it possessed in the past. For example, even as late as 1930 the expenditures of the Federal government were less than 5 per cent of the national income. In 1900 they were 3.2 per cent of the national income; in 1880, 3.7 per cent; in 1830, 1.5 per cent. Even if the Federal government in the nineteenth century had desired to use fiscal policy to influence prices, employment, and production, it would not have been in a favourable position to have done so.

The Federal budget is now almost one-fifth of the national income and the budgets of all governmental units are about one-fourth of the national income. Expenditures for military purposes are likely to remain high for the foreseeable future. It is considered doubtful whether the Federal expenditures after 1949 will fall below $40 billion a year, and they may even be higher. During the last 160 years the Federal budget showed a deficit in about two years out of five. It was possible to finance Federal expenditures in most years almost entirely by duties on imports and with a few excise taxes. With the ratio of government expenditures to the national income increasing and with the necessity of levying heavier taxes than in the past to meet these expenditures, the budget of the Federal government is likely to show deficits possibly more frequently than it did in the past. In any event, the influence of the budget will be considerably greater in the future, simply because of the change in the relative size. The large size of the Federal budget gives added assurance that there will be a considerable segment of expenditures which do not have to decline when business prospects become unfavourable. On the contrary they are likely to increase.

(f) The money supply and hence the volume of private spending may be expected to be somewhat less susceptible to a drop in private business than in the past. The reason is that private credit today is a less important source of money supply than in the past. Hence fluctuations in the volume of private credit have less effect upon the volume of money. As late as 1929 the volume of private loans of commercial banks was almost 66 per cent as high as all privately owned bank deposits and money outside of banks. Today the loans of commercial banks are less than one-fourth as high as the privately owned money supply. The government security holdings of all commercial banks are about 63 per cent larger than their loans. Hence there is no immediate prospect that private credit will

become as important a source of money supply as it was during the 'twenties.

(g) The long-run trend of prices will in some measure be affected by the trade union movement which has grown rapidly in the United States during the last 15 years. The trade unions have taken an increasing interest in economic affairs. Their attitudes to wage-price relationships will contribute to shaping the course of economic events.

During the last hundred years output per man-hour in non-agricultural industries increased reportedly by nearly 2 per cent a year. The rapid growth of industrial research gives reason to hope that the increase in the future will be more rapid. But whether money wages in the future will be in line with productivity increases is hard to foretell. If wages are pushed up faster than technological progress raises output per man-hour, a compensating rise in prices will be needed to prevent a growth in unemployment. If wages are not raised fast enough to require a rise in the price level, but sufficient to prevent a general drop in the price level, this will mean that the largest part of the gains of technological progress will go to people in their capacity as employees rather than in their capacity as consumers. It is quite in the realm of possibility that collective bargaining may bring about a continuing pressure for wage increases - although the degree of pressure will vary - which will not be without effect on price levels.

Long-Run Demand for Capital

What are the prospects of the long-run demand for capital? Between 1879 and 1947, plant and equipment in the United States (valued in dollars of constant purchasing power) increased almost eight-fold. Is the rate of increase likely to be as rapid in the future? During this period about 9 per cent of the gross national product was devoted to increasing the capital of the country.

The rate of population growth (which in turn largely determines the size of the labour force) and the rate of technological change are important factors affecting the demand for capital. During most of the life of the United States, population has been increasing rapidly. This has required that a large part of new capital be used to provide the increased labour force with the average amount of plant and equipment. Indeed, between 1879 and 1947 about two-thirds of the growth of plant and equipment is attributable to the expansion of the labour force. In the future this source of demand will be much less importan

than in the past since the rate of growth of population is declining. By 1970, the population of the United States is expected to be only about 12 per cent above the present level. Thus, during the next twenty years the increase in population may require less than one-fourth of all capital formation. The precise proportion will depend, of course, upon the rate at which other conditions cause capital to grow.

Technological change has produced a growth in capital of about 2 per cent per worker per year--measured in dollars of constant purchasing power. The influence of technological change upon the demand for capital is expected to be greater in the future than in the past. The predominant type of invention is likely to continue to be the kind which increases capital per worker because inventions consist largely of changes which enable one worker efficiently to manage more and more apparatus. Economists call such inventions labour-saving inventions because they enable goods to be produced with a smaller ratio of labour to capital. Expenditures on industrial research are rapidly rising. They were nine times as large in 1940 as in 1920 and they were twice as large in 1946 as in 1940. To these expenditures should be added the rapidly growing outlays of the government on research because this research has many industrial applications. During the next 20 years it would not be surprising if technological change were to increase plant and equipment per worker at a rate higher than the current rate.

The increase in the national product might not be in proportion to the rise in plant and equipment because the output of goods would be accomplished by the use of relatively more capital and relatively less labour. Available records suggest that in the past the national income has increased slightly faster than plant and equipment. If this trend continues the demand for investment-seeking funds in the future may be expected to be somewhat less relative to incomes than it was in the past.

For the near future, however, the demand for investment-seeking funds is likely to continue high because of failure of most concerns to make capital expenditures at the usual rate during the depressed 'thirties and the war years. In fact, for a part of the period, the expenditures on plant and equipment were not sufficient to offset wear and tear of plant and equipment. In the meantime, there has been a large increase in the labour force--about 12 million between 1929 and 1947. This is more than twice as many workers as the Canadian labour force. So far this increased labour force has not been provided with all the new

plant and equipment it requires. As a result, at the end of 1947 there was about 9 per cent less plant and equipment per worker in the United States than in 1929. The overall rate of increase in plant and equipment per worker for the period that records are available has been about 2 per cent a year. Had this rate of increase continued from 1929 to 1947, plant and equipment per worker at the end of 1947 would have been almost one-third larger than it was. It is estimated that an expenditure of over $90 billion at 1948 prices would be necessary to bring plant and equipment per worker up to the level that would be appropriate in view of the long-run trend.

Long-Run Supply of Investment Seeking Funds

What is the outlook for the supply of investment-seeking funds? Does the prospective decline in the demand for capital relative to income mean that after the large accumulated shortages of the war and the depression have been met, the country will be confronted with a surplus of investment-seeking funds?

The answer given is: Not necessarily. The American people have never been willing to save enough to meet the need of industry for investment-seeking funds. Hence a large proportion of the capital requirements of industry have been met by plowing back earnings. During the period 1910 to 1929, for example, corporations raised $56.6 billion of capital by public issues of stocks and bonds but plowed back into the business $37.3 billion of profits. In 1947 the retained profits of corporate industry were twice as large as the net new security issues. Even plowed-back earnings have been insufficient to meet the capital needs of industry during periods of expansion. The deficiency has been made up by borrowing from banks. In 1947, for example, corporations obtained about $2.9 billion from short-term and long-term bank loans.

One reason why the personal savings of the American people have been insufficient to meet the needs of the corporate part of industry is that a large fraction of personal savings are used to buy homes or to increase the plant and equipment of farms or other unincorporated enterprises. For example, in 1947, $3.5 billion of personal savings was used to increase plant and equipment on farms, $4.1 billion to increase plant and equipment of unincorporated enterprises and $4.8 billion to purchase non-farm residences. Individuals made available to corporate industry only $1.0 billion by the purchase of private securities and $3.3 billion by the purchase of insurance. In other words, considerably less than half of the net savings of individuals and less than one-fourth of their

gross savings in 1947 were available to corporate industry.

There is no prospect in the foreseeable future of a large increase in the supply of investment-seeking funds from individuals. For several generations at least, there has been a slow tendency for American people to become less thrifty. The rise in per capita incomes has been sufficient to prevent a drop in the proportion of savings to personal incomes after taxes, but the decrease in thriftiness has also been sufficient to prevent a rise over the long-run in the ratio of savings to incomes. The rapid rise in real per capita incomes since 1929, it is true, has caused during that period a small rise in the ratio of personal incomes after taxes, but even at the present time personal savings are only about 6 per cent of personal incomes after taxes. After individuals have spent part of their savings on housing and invested part in owner-operated enterprises and part in the bonds of local and state governments, this does not leave enough to meet the needs of corporate industry. Further, as the Federal government may incur a budget deficit at some time in the future, some personal savings will be needed to finance it. All available evidence supports the conclusion that corporate enterprises will have to continue to rely for investment funds to a large extent upon plowed-back earnings and bank credit.

Short-Term Business Outlook

What about the short-term outlook for business? Previous wars have been followed first by a brief but pronounced boom and then by a sharp, though short, depression. The boom following the Second World War is now over three years old. Is not a post-war recession overdue?

Throughout the boom, predictions by economists of an early recession have been numerous. At the time of V-J Day, some economists spoke of the possibility of 8 million unemployed in the spring of 1946. In the fall of 1946 a group of economists, meeting under the auspices of the National Industrial Conference Board, reached a consensus that there might be a recession in 1947--some said in the spring, others in the fall. In the fall of 1947, 75 out of 100 economists polled by the F.W. Dodge Corporation believed that a recession might occur in 1948. February and March were the months most frequently mentioned as the beginning. In March, 1948, the consensus of 75 economists polled by Montgomery Ward and Company was that the post-war boom would likely end in the fall of 1948. This year's bumper crops have greatly increased the supply of grain products relative to demand, and promise within twelve months a sizable

gain in the supplies of meat and dairy products. Does not this indicate an early reversal of price trends and hence of buying policies?

There are a number of signs that the post-war boom is levelling off. These signs are found in the slackening rate of increase in spending, in the slower rise in prices and wages, in the halt of the increase in bank credit, and in the drop in the net export surplus. It is instructive to compare changes between the second quarters of 1946 and 1947 with changes between the second quarters of 1947 and 1948. In the former period, total spending increased 12.5 per cent; in the latter, 8.3 per cent. In the former period the wholesale price level increased 28.8 per cent; in the latter, 13.9 per cent. In the former period the consumers' price index increased 17.8 per cent; in the latter, 9.3 per cent. In the former period, the hourly earnings of factory workers increased 13.1 per cent; in the latter, 7.6 per cent. In the former period private bank deposits and money outside of banks increased 4.0 per cent; in the latter, 0.7 per cent. In the second quarter of 1948 the net export surplus of the United States was about 60 per cent less than in the second quarter of 1947. The boom now depends only to a small extent upon the net export balance.

Not only is there evidence that the boom is levelling off but the economy during the last year has become more vulnerable to unfavourable influences. This is a result of the increase in the relative importance of business spending. In the second quarter of 1947, gross private investment was about 11.6 per cent of the gross national product; in the second quarter of 1948, it was about 15 per cent. Private investment is the type of spending which is most sensitive to favourable and unfavourable influences. If the boom is levelling off, if important uncertainties are developing with respect to the immediate future of many prices, and if the boom is dependent upon a large volume of business spending, must not an early recession be expected?

An early decline in business spending is considered feasible. This, however, does not necessarily mean that a recession will immediately follow. Some consumer buying - particularly durable goods like motor cars, refrigerators, etc. - and government buying may take its place. If consumer spending and government spending increase this in turn would have a retarding influence on a decline

in business spending.(1)

A drop in business spending on capital goods if it were to take place, say in 1949 or 1950, might make it possible for consumer spending to increase because it would make available to consumers more goods and services than they have been able to obtain in the first three post-war years. This is shown by the fact that personal holdings of cash and bank deposits are still high in relation to expenditures for consumer goods by pre-war standards. In 1939 the annual rate of expenditures for consumer goods was about 1.9 times personal holdings of cash and bank deposits; today it is about 1.7 times personal holdings of cash and bank deposits. Hence output and prices do not yet appear high enough to give the output of industry a value equal to the amount which consumers may be willing to spend.

A drop in business spending may also be offset at least in part by a rise in government buying. State and local governments have great needs which they have been unable to meet because of shortage of men and materials. Their expenditures on goods and services in the second quarter of 1948 were running 19.3 per cent above the corresponding quarter of last year and will continue to increase if men and materials can be obtained. The expenditures of the Federal government for goods and services reached a post-war low in the last quarter of 1947. By the second quarter of 1948, the seasonally adjusted annual rate was 14 per cent above the last quarter of 1947. The military needs of the government are growing and meeting these needs cannot be indefinitely postponed. These are the types of actual or potential demand the effects of which should be particularly notable should business investment fall.

Economic Stability and the Investment Boom

How good a job has the United States done in controlling the post-war boom and in keeping the economy stable? This question can be better answered two

(1) The views expressed above differ from those held by other schools of thought, which doubt that consumer and government buying will be sufficient to offset declines in business spending on investment, with consequent detrimental effects on levels of employment and income. According to this type of analysis, prices in general should begin to decline promptly once the peak has been reached (see, for example, Joseph L. Snyder's What's Ahead for Prices and Business?, Harvard Business Review, November, 1948, p. 766). The differences of views that exist have a simple common denominator, namely, the degree of decline of employment and income which will follow a drop of business investment. One group believes that only moderate declines in employment and income will follow the adjustment involved when consumer and government spending take the place vacated by business investment, while the other group believes that the adjustment process will be more difficult to achieve.

or three years from now when the consequences of recent decisions (or of recent failures to face issues) are plainer. Nevertheless, it is useful to take stock at the present time.

After three years of boom the country on the whole is in a remarkably strong position. Despite the large expansion of production and the rapid rise in prices the economy has developed few serious weaknesses. Indeed, there has never been a boom of comparable magnitude accompanied by so little reckless speculation. Perhaps the prices of agricultural products cannot drop from their present high levels without sooner or later giving the country a bad 12 or 18 months. By and large, however, the condition of the economy after three years of boom is remarkably sound.

What has been the contribution of the principal groups of the community, organized labour, farmers, businessmen, and government to the problem of stabilizing the economy?

(1) Organized Labour. This group was chiefly concerned with maintaining the real standard of living of labour who together with their families represent the majority of consumers in the United States. This was substantially achieved by trying to have wage increases keep pace with price increases. The result has been increased consumer incomes which in turn by maintaining demand at high levels relative to supply contributed to higher prices. The level of prices and costs reached as a result of this process is likely to put the general price and cost level permanently on a higher plateau from which a complete return to pre-war conditions is quite unlikely. This higher priced plateau should be of aid to foreign countries which have been able to maintain a lower price level. It would give them an opportunity to compete on favourable terms in the American market - as long, of course, as tariff and related restrictions do not prevent them from competing with American business.

(2) Farmers. The influence of these groups has been strongly felt both during the war years and the post-war period. The clamour for greater stability of farm prices has been great and resulted in the establishment of floor prices for many agricultural commodities. This, however, has not prevented prices of most farm commodities in the first two post-war years to reach record levels.

(3) Businessmen. The attitude and action on the part of businessmen

have in some respects been contributory to economic stability, in other respects have had the opposite result. Price conscious firms have kept the prices of their products from rising as much as the prices of some other commodities. Where possible such firms also attempted to make necessary increases a gradual process. Business concerns also showed restraint in raising dividends and have plowed back a high proportion of profits into the business. This is the least inflationary way of financing capital expansion. Inventory policies of business concerns have been conservative and so also, on the whole, have the credit policies of both borrowers and lenders. The change in the lending policies of the the banks after the second half of 1947 is particularly noteworthy. Some of the demands of the business community have had the effect of contributing to instability, e.g., the request for the termination of controls of consumer credit in the fall of 1947, opposition to the control of stock market credit by the Federal Reserve System, and the demand for tax reductions in 1947 and early in 1948.

(4) Government. Economic developments in the post-war period have been significantly affected by action or inaction of both Congress and Executive. A number of measures passed by Congress - some at the recommendation of the Executive, others against its objections - had inflationary effects, e.g., tax reductions, farm prices support, housing assistance, abolition of controls particularly the much-debated extension of credit controls of 1947. Other policies such as the steps taken by the Federal Reserve System have had some anti-inflationary effects.

In the light of the divergent actions taken by the various sectors, what is the explanation for the present strong position of the economy? It is partly the result of the fact that the boom started with large accumulated needs for goods, with debts low, with individuals and enterprises in possession of substantial liquid assets, and with tax rates high. These conditions in turn were the result of the long depression of the 'thirties and shortages developed during the Second World War. Even three years of high production and rapidly rising prices have not been sufficient to eliminate these elements of strength. There is another important factor: The absence of unhealthy speculative buying. The reason that this has not happened so far is the memory of the collapse of 1921 after the First World War and of the depression of the 'thirties. These

experiences have imbued the whole community with a pronounced spirit of caution. Indeed there has never been a boom of substantial magnitude accompanied by less optimism and less speculative buying. To 1921 and the depressed years of the 'thirties, the country may attribute its ability to experience three years of high levels of economic activity while developing up to the present few serious weaknesses in the economy. The main problem of how to achieve stability in the future when some of the particularly favourable circumstances of the immediate post-war period will have disappeared is a task that the United States still has to face.